35 PAGES OF EXPERT TUTORIALS
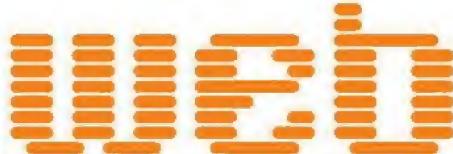
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WORDPRESS SECURITY
Avoid vulnerabilities Lock back doors Secure your server

LESS RAIN
A refreshing outlook
from this award
winning agency

ISSUE 197   £5.99

97 >

9 771745 353003

RESPONSIVE iPAD DESIGN
How Apple's high-definition
tablet impacts your content

Welcome to the issue

THE WEB DESIGNER MISSION
❝ To be the most accessible and inspiring voice for the industry, offering cutting-edge features and techniques vital to building future-proof online content ❞

Russell Barnes

Highlight

❝ Rushing into writing code always causes problems later on in the project ❞
One of the many challenges of completing big projects as described by Less Rain.
Page 28

How secure is your WordPress blog?

The Internet isn't a utopian 1950's suburb. The ramifications for leaving your back door unlocked online are damning and there are no creaky floorboards to give an assailant away. Like any kind of misdeed, Internet security breaches have many motivations, but they usually boil down to three key drivers – financial gain, prestige and ease of access. The real-world translations of these online crimes are essentially one and the same whether it's cracking a bank, breaking into a celebrity residence or taking advantage of a sorry idiot that's left their windows open.

Since it's unlikely you're a global financial institution or Facebook's Mark Zuckerberg, the biggest danger you're going to encounter is that of falling into the latter category. Ultimately, you need to apply every day common sense to your online endeavours and batten down the hatches, especially if you're using a CMS as ubiquitous as WordPress. That's exactly what Leon Brown shows us how to do in his unmissable feature starting on page 36.

In other news, regular readers have probably spotted that I'm a new face in the magazine team. Mark Billen, with a whopping 80 issues of **Web Designer** under his belt, has moved on to pastures new and we wish him the best of luck in whatever he turns his hand to. The magazine wouldn't be what it is today without his stellar efforts, so, suffice it to say I fully intend to continue Mark's mission to ensure **Web Designer** is an accessible and inspiring voice for the industry.

Enjoy the issue!
Russell Barnes

❝ Once a project reaches a critical mass of users, it becomes viable for the more criminally inclined hackers ❞

Follow us on Twitter for all the news & conversation 🌀 **@WebDesignerMag**
Visit our blog for opinion, freebies & more 👆 **www.webdesignermag.co.uk**

"Confirmation, if ever it were needed, that football is a mug's game"

"Steve takes his love of Her Royal Highness with him to the land of Oz"

Excitographic
Plotting the features that got us in a frenzy over the month...

- Steve Jenkins, Features Editor
- Russell Barnes, Editor
- Steven Mumby, Designer
- Ben Martin, Sub Editor

The 100m final · Google I/O · Nokia 808 PureView (41MP camera) · The European Championships · Less Rain · SASS · Diamond Jubilee · Ampersand 2012 · Twitter Bootstrap · Web Designer on Zinio

Turn over to the contents to discover what's going to get you excited this issue...

This issue's panel of experts

Welcome to that bit of the mag where we learn more about the featured writers and contributors...

❝ Once a project reaches a critical mass of users, it becomes viable for the more criminally inclined hackers ❞

Leon Brown

Leon Brown is a freelance consultant providing services to create websites and apps for web and mobile. He also delivers training for developers and creatives. Read more at www.leonbrown.info. In this month's cover feature he shows us how to keep safe with WordPress. **Page 36**

Chris Wright

Chris is the founder of The Scribble Agency, an IT copywriting company in London. He also writes extensively on SharePoint, web trends and general IT topics. This issue he covers design with the new hi res iPad in mind **Page 44**
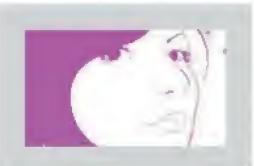
Louis Simoneau

Louis slings Ruby on Rails for Flippa, and hosts the SitePoint podcast for designers and developers. He returns to **Web Designer** this issue with an article investigating how to get better results with CSS3 using SASS. **Page 82**

Mark Shufflebottom

Mark is an Adobe Education Leader and programme co-ordinator of BA (Hons) Interactive Media Production at Bournemouth University. This issue Mark concludes his series on making an HTML5 game with EaselJS. **Page 56**

Adam Smith

Adam transfers his skills from our sister magazine **Advanced Photoshop** (www.advancedphotoshop.co.uk) across to **Web Designer**, where he demonstrates how to refresh your landing pages using CS6. **Page 68**

Sam Hampton-Smith

A keen supporter of web standards. Sam loves getting the most out of HTML and CSS. You can follow his antics on Twitter via @samhs. This month Sam shows us how to create dynamic content animations using CSS3. **Page 48**

Matt Gifford

Matt is a lead RIA consultant developer who specialises in ColdFusion, Flash and AIR development. This issue he puts his vast industry experience into practice by showing us how to build HTML in JavaScript using HTML. No kidding. **Page 88**

Steve Jenkins

Steve is Features Editor on **Web Designer** and has been creating websites since 1999. His interests include HTML, CSS and WordPress. This issue he profiles Less Rain among many other things. **Page 28**

Simon Bisson

With a background in IT and engineering, Simon is a highly respected technology journalist. This issue he's concluding our development section with a guide demonstrating how to assemble a web server with Node.js. **Page 92**

Got web skills?
We're always looking for the hottest web-design talent. Email
webdesigner@imagine-publishing.co.uk
with examples of your creative work

<meta>

inside issue 197

contents

Cutting-edge features, techniques and inspiration for web creatives

Chat with the team and other readers and discuss the latest tech, trends and techniques. Here's how to stay in touch...

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Inside...

<header>

Discussing the hottest topics from the web-design world

Cover focus

WORDPRESS SECURITY

36
Never leave the back door unlocked again with our essential WordPress security tips, tricks and techniques

RESPONSIVE DESIGN and the NEW iPAD
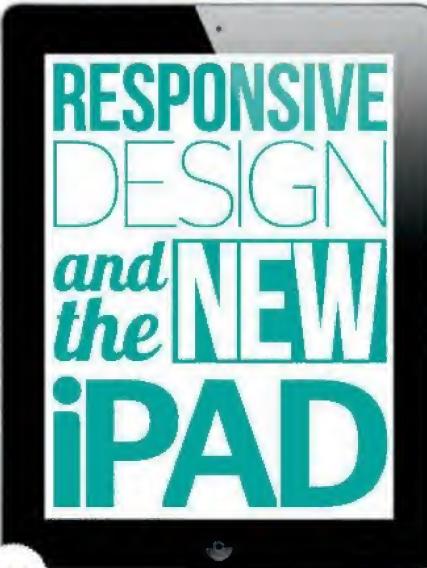
44
Responsive design and the new iPad
Exploring the new challenges web designers face

28
Pro file: Less Rain
Creating projects less predictable than the weather

20
Lightbox: Mozilla BrowserQuest
Discover Little Workshop's big adventure

On the free CD

A comprehensive collection of free designer resources!

- 180+ minutes of video tutorials
- 2 WordPress & Facebook themes
- 27 Wallpaper textures
- Velveteen font

112

68

Refresh your frontend
With a little help from Photoshop CS6
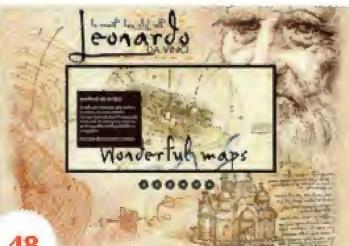
48

Dynamic transitions
Forget JavaScript – CSS3 will do

Roots Theme
Roots is a starting WordPress theme based on HTML5 Boilerplate & Bootstrap from Twitter.

60

Grow some Roots
Development-ready WordPress theme

64

Electric atmosphere
Simple, but effective type effects

Web workshop
Re-creating the web's hottest styles

2001-LAUNCH

<tutorials>

Web gurus take you step-by-step through professional techniques

{web developer;

NEW! Dedicated 16-page section offering features and tutorials for coders

82

Feature
Supercharge your CSS with Sass
Give your CSS some serious attitude using Syntactically Awesome Stylesheets

‹header›

Discussing the hottest topics in the web-design world

If you have a creative project, new web product or great designer story, contact the editorial desk
webdesigner@imagine-publishing.co.uk @WebDesignerMag

KEEP MOBILE COMMERCE SIMPLE

The huge growth in the sale of smartphones and tablets has seen mCommerce floundering in their wake. Now is the time to catch up and start designing for a potentially massive and lucrative market

Online shopping, or eCommerce, is hardly a new and exciting experience that creatives want to grab hold of and embrace and indulge. It could be considered the unglamorous sibling of web design, but its importance cannot be underestimated. An attractive web presence is all well and good, but if selling is an integral element of a site, functionality is key. Amazon and eBay are some of the biggest online marketplaces in the world, but its fair to say that design is not their strong point. Where they succeed is in the obvious and intuitive nature of the purchasing process.

The user experience is critical, and keeping it simple is the key to the success of the mobile shopping experience. Who wants to register via a long drawn out form before the shopping experience is reached? No-one is the answer. What happens after the registration? Another awkward tap challenge that eventually leads to the desired destination. Does this encourage users to come back or do they defect? Again the answer is simple: they will defect. A recent survey by MasterCard Worldwide revealed

that one of the big issues for consumers was entering payment, billing and shipping information. They wanted a simple, fast way to enter account information so they could spend more time searching and less time filling out forms. Geoff Iddison, group executive, eCommerce and mobile for MasterCard Worldwide said, 'Online and mobile shopping puts a host of new options at consumers' fingertips, but the current checkout process needs improvement to fully realize the potential of these important retail channels." To reiterate the point, the study also revealed that nearly 25 per cent of respondents said they had abandoned a shopping cart before completing either an online or mobile purchase.

The desktop online shopping experience has been the key focus for eCommerce, and has been refined to a degree that ensures a valuable shopping experience, for most. However, the mobile shopping experience, the next logical step, needs to evolve and ride past the new challenges that the small screen offers. It is predicted that by 2015 that there will be five-times as many mobile connections as there are fixed
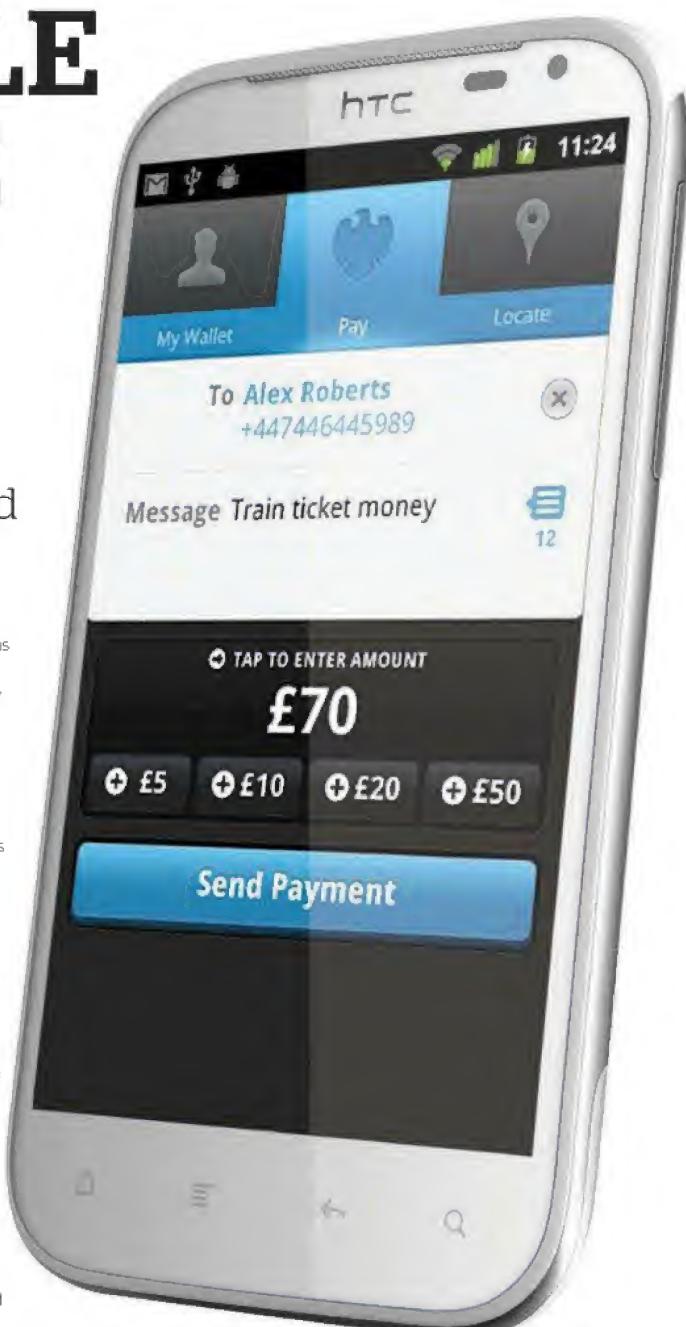
connections. Smartphone and tablet sales have far outweighed desktop sales for years. Figures from IDC (www.idc.com) show that shipments for Q1 2012 alone were 144 million, with Samsung and Apple being the front-runners with over 75 per cent between them. To add to this impressive set of figures, a survey from Nielsen (www.nielsen.com) indicates that the mobile web is growing eight-times faster than the web. The growth is not just confined to the US and Europe – it is now a global phenomenon. The biggest increase in mobile connections has been seen in India and China, with India seeing a staggering growth of over a thousand per cent. It is predicted that China will hit 230-250 million 3G subscribers by the end of 2012. The mass adoption across developing nations is largely influenced by the lack of or limited infrastructure outside of major cities. Wireless internet is the easiest and cheapest way to get online. In fact, for many it is the only way to get online.

The global mCommerce market is huge and it is only going to get bigger. There are no signs of mobile adoption slowing down. Locality will no longer be a barrier and it is unlikely that language will prove to be too much of an obstacle. The biggest issue is going to be user experience. A survey run by search giants Google found that 61 per cent of users said they were unlikely to return to a site if they'd had trouble viewing it on a mobile device. However, more worryingly, 40 per cent said they would visit a competitor's site. The Google survey also pointed out that having a mobile site can increase an online retailer's consumer engagement by an impressively high 85 per cent.

So if you want to win over a potentially lucrative market, we suggest taking a few tips from the experts. A recent webinar by Google senior mobile account executive Elliott Nix, and mobile specialist Shiv Kumar, suggested a few rules to follow:

1. Keep it simple
2. Design for touch
3. Create a streamlined experience
4. Focus on an easy checkout
5. Take note of mobile analytic data
6. Test, test and test some more

Undoubtedly, a simple and common-sense set of rules, but ones that you will ignore at your peril.

Mobile commerce showcase

Here we cherry-pick a few examples of how mobile commerce should be done.

ASOS
www.asos.com
It only takes two taps to get to the desired category to browse

New Look
www.newlook.com
The New Look menu system ensures uses drop down sub-menus for quick navigation
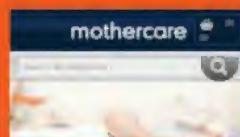
Mothercare
www.mothercare.com
The homepage uses app style icons for a clean and simple interface

Walgreens
www.walgreens.com
The homepage focuses on direct access to the available shopping categories

CONSUMER BROADBAND CONNECTIONS

573 MILLION (Fixed connections)

0 (Mobile connections)

2005

2015 (Predicted)

2707 MILLION (Mobile connections)

167 MILLION (Fixed connections)

THE BROADBAND REVOLUTION saw eCommerce gain ground with consumers, but the experience still needed to be refined to provide consumers with a valid and valuable online shopping experience. A similar scenario is now appearing with more and more consumers accessing the web via a mobile device. For this very reason the mobile shopping experience needs to catch up and provide an experience that rivals the desktop. Is that time here yet? Yes, but good mobile commerce is still in the minority and online businesses need to make sure they provide the right experience, otherwise consumers will look elsewhere.

Source: Economist Intelligence Unit, Cisco, Ovum, BCG analysis

Discussing the hottest topics in the web-design world

Cloud hosting: It's the future

Web hosts are slashing prices and adding functionality to try and tempt web creatives into joining the cloud hosting revolution, but why make the change?

Web hosting in the cloud, isn't that what web hosting has always been? A site stored on a remote server? It's not far off the truth. So what does a cloud server do? What do they have to offer? And, why, as designers and developers, should we care? In a nutshell, cloud hosting allows the end user to choose exactly the specifications they want quicker and easier than more traditional offerings. Want more memory, CPU power or storage? Well with cloud hosting you can have them when you want them. The beauty of cloud hosting lies in its flexibility, scalability and speed of delivery. What could have taken hours – or even days – can now be achieved in minutes via an online control panel.

Virtualised solutions have been enjoyed by large enterprises for years but hosting providers are now pushing hard to drive adoption with small firms and web pros. Research from the Cloud Industry Forum, which exists to provide clarity to end users researching a cloud provider, finds that 85 per cent of IT execs now consider cloud as a viable option for delivering new IT projects. Admittedly, cloud hosting is not an ideal fit for individuals,

but small business and web pros can benefit from the flexibility that cloud hosting offers.

The hosting industry is investing hard into cloud infrastructure, pointing out that high availability, with automatic failover in the event of hardware failure, reduces downtime and ensures a more productive end product.

The benefits of switching to cloud hosting are pretty apparent, but who is offering cloud hosting and where can they be found? Companies that fit the bill are Rackspace (www.rackspace.co.uk), Fasthosts (www.fasthosts.co.uk) and GoGrid (www.gogrid.com).

Rackspace offers its cloud server service from as little as £7.30 a month, or alternatively, just 1p per hour for Linux servers. Bandwidth comes to about 11p a GB, so add £1.10 for a monthly bandwidth of 10GB. Included memory is 256MB and boosting it up to 512MB will double the price to £14.60. Doubling up the memory again will double up the monthly fee.

Fasthosts is a UK-based hosting provider that has added cloud hosting to its repertoire and is currently offering packages from £26.99 a month. This includes 1GB of RAM, 80GB of disk space and 99.99% uptime.

GoGrid is a US-based hosting provider that offers pay-as-you-go billing and pre-paid plans. The pay as you go option ensures no up-front costs, no commitment, and of course, users only pay for the resources they consume. This is a little more expensive than a pre-paid plain starting at $0.06 an hour for Windows or Linux-based servers.

Another provider is Heart Internet (www.heartinternet.co.uk) who is offering Linux hosting solutions from £11.99 a month. The base package includes 50GB of storage, 1GB of memory, but no control panel. Adding a control panel (CPanel) pushes up the price to £21.99 a month.

Making the switch to a cloud hosting solution is a tempting proposition. The flexibility and scalability on offer is a no-brainer, but current costs cannot compete with traditional hosting solutions.

The question that needs to be asked is 'Do you need to make an upgrade to your hosting solution at a minute's notice?' If the answer is no, then the switch is not an immediate concern. If the answer is maybe, then now would be a good time to jump on board to get a competitive edge. If the answer is yes, then don't hesitate and make the switch now.

‹news cloud›

Bite-sized coverage of the month's trending topics

jQuery Conference 2012

Events season is well and truly in swing, and if you haven't got your ticket for jQuery Conference 2012, now is the time to take a look at the line-up and get one. Back on the West Coast, San Francisco, the conference runs through June 28-29. Tickets are available for $399. To find out more visit the JQCON 2012 site at events.jquery.org/2012/sf.

CSS

jQuery

GOOGLE

Google releases its HTML and CSS Style Guide

The search giant's massive cloud hosted data analytics service BigQuery is now available to the public

Mozilla combines desktop and mobile design teams

HTML5

Firefox

WordPress

The release of 3.3.2 fixes security vulnerabilities, so update now

What are the fastest growing online jobs?

Freelancer.co.uk offers a comprehensive insight into online job trends and recently revealed the biggest movers and shakers for the start of 2012. According to stats, open standards are on the increase with HTML5 jobs up by nearly 50 per cent, Android and iPhone app development up by just over 25 per cent and jQuery jobs up by over 39 per cent.

COMMENT

Richard Stevenson
Head of Corporate
Communications, 1&1
www.1and1.co.uk

" There has been growth in demand for cloud server solutions over the past year. SMBs are becoming aware of developments in IT and the business case for cloud is now being understood. Today's cloud servers have evolved to deliver excellent scalability, and with the help of mobile apps, are beginning to become truly intuitive and effortless to control. Web pros are now better placed to argue the impact that dynamic infrastructure can make to clients' business agility and the performance of online projects. "

COMMENT

Claire Lewis
Head of Marketing,
Fasthosts
www.fasthosts.co.uk

" Business management has become more mobile, cloud and web-based than ever before. Cloud server solutions have real resonance with small businesses because they offer real-world benefits. Research has shown us that there is a definite willingness among this group to utilise cloud solutions for their business. However, we also recognise that the industry needs to raise awareness within the remaining UK businesses, especially the smallest. We also know that small firms still very much value the discussion of important service elements such as the assurance of data security and accessibility to a provider for technical support. "

Cloud adoption gathering pace

Research continues to emerge that suggests trust in cloud solutions is growing. Figures from the Cloud Industry Forum show that most firms are already using cloud solutions to some degree.

53%
of UK organisations use cloud computing in some shape or form

For UK firms, flexibility (**46%**) outstrips costs savings (**17%**) as the primary driver of cloud adoption

73%
of firms using cloud services expect to increase their use

96%
of firms are satisfied with the results of cloud-based services

Conclusion

The numbers show that cloud computing is growing support from all types of UK business. When choosing infrastructure, cloud solutions and related service considerations will surely be on the top of the research list for web pros.

Source: Cloud Industry Forum Paper 4

Crowd source

Your emails, tweets, forum comments. The social network but in print

This month we're pleased to announce **Web Designer** is now available on Android, plus discussing WordPress, Flash and Illustrator

Subject Love WordPress, love responsive design
From Rebecca Lindon

WordPress is my favourite platform for creating websites and responsive design is an essential element for any website. What I want to do is create a website that works using WordPress and is responsive. Do you have any recommendations for a responsive WordPress theme?

Responsive design is definitely flavour of the month and not without good reason. Every new website should work with all popular devices and resolutions and responsive design is a very good fit. There is the option to modify an existing WordPress theme, but buying a ready-made theme negates much of the hard work involved and provides a tried and tested theme that will work out of the box.

We have seen a few responsive WordPress themes that work really well. Check out the following, you won't be disappointed. SuperSkeleton from MakeDesign, NotWar (**mdnw.net**), Fluid and Hybrid from ThemeFit (**themefit.com**) and Surplus from WPExplorer (**wpexplorer.com**).

Web Designer tutorials

Discover the latest techniques to help create inspirational and interactive webpages

Create a 3D logo with Google Sketchup
bit.ly/Jcp7GK

Make a WordPress theme responsive
bit.ly/HwRbCu

Create Cinemagraph animated gifs from video
bit.ly/s6nAb9

Subject My own Google Maps
From Mary Albers

I am in the middle of building my portfolio site and I want to add a map to show where my new office will be. But, I want my map to be more than just a static map that shows the location of my office. I want it to be interactive and a bit more useful, but need some inspiration to help me create my solution. Hope you can help.

The Google Maps API is an easy to manipulate specification giving users the option to create custom maps. **Web Designer** is running a Google Maps feature in the next issue which will give the lowdown on how to create a custom maps - ideal for your needs.

There are some great examples on the web, here are a few to inspire you. National Express (**www. nationalexpress.com/ stopfinder.aspx**), Adopt A Hydrant (**adoptahydrant.org**) and Barcelona Go Mobile (**bit. ly/wE2GHR**).

Subject Zinio subscription
From Salman Dawood

I've subscribed to your mag through Zinio. The magazine mentions that the attached disc comes with various goodies like vectors, videos, etc.

I did go through the tutorial files on your website, but they just have the scripts from the tutorials and not half of what has been published in the magazine. How could I get these additional goodies since mine is not a print format magazine?

Unfortunately, the digital edition of **Web Designer** does not come with the disc content. As you mentioned, the tutorial files are available at **www. webdesignermag.co.uk/ tutorial-files**.

Subject Creative social networking
From Leo JK

After I read Sarah Kilgannon's article 'Is Twitter still number one?' On page 14 of **Web** Designer #195, I decided to give her little help in clarifying the situation regarding the social networking market. Yes, she is actually right, despite many social networking sites on the market today. None of them are built for people, and none of them provide anything creative for people. I would like to offer her and everyone else my own social networking site for creative people like Sarah and all others.

I am the creator of **sobnet.org** and the main idea we had behind this site was to give creative people freedom of creativity and expression, and it is built only by users.

We *do not* tell people what to do here. We *do not* talk nonsense. We *do not* impose anything on people. The site is created completely by users, and not by us.

Good to see that *Web Designer's* opinion column has stirred up some reaction. Social networking is very much a personal choice and Leo JK has taken up the challenge to build his own for creatives. Why not pay a visit and make up your own mind?

Join the conversation as it happens on Twitter @webdesignermag
Comment on the news and opinion www.webdesignermag.co.uk
Email the editorial team at webdesigner@imagine-publishing.co.uk

Subject **SharePoint designer hosting**

From Mark Slade

I currently work for a large organisation and help do some SharePoint admin, setting permissions, uploading and downloading, page changes using SharePoint Designer etc, and was wondering if there is cheap hosting out there for Personal SharePoint sites like there is for personal websites (eg 1 to 1), as I would like to teach myself and get qualified in MOSS SharePoint 2010. I've looked at courses and they cost thousands of pounds, and think a cheap alternative would be to find a host that I can play around with and set up my own SharePoint Pages/Site to practice on.

I appreciate that SharePoint isn't web design per se, but because I know my way around Dreamweaver, Photoshop, HTML and CSS I think I would pick it up fairly easy, and hopefully then get access to my Work SharePoint Site so I can make it more pleasing on the eye.

SharePoint Designer is a tool that rarely touches a web designer's radar, but it's good to see that our readers are looking at alternatives. SharePoint Designer is a Microsoft product and uses Microsoft technologies. This means you will need a related hosting option. Try Rackspace Hosting (**www.rackspace.co.uk**) or Alentus (**www.alentus.com**), these should have what you want to get started.

APPS MAGAZINE

If you want to know about the latest, coolest apps on the planet then **Apps magazine** is the go to publication. They provide trustworthy and respected reviews written by industry experts. The latest issue includes, The very best Retina display apps for your new iPad and the classic apps that look great in HD, plus the 75 Most Addictive Games - The iPhone, iPad and Android games that are hard to put down. Head to the website (**www. knowyourapps.com**) to find out more about the latest and greatest apps out there.

Comments from the Blog

Web Designer is always keen to hear from its readers, followers and visitors. Here we bring together a specially selected collection from the last month.

Reaction to the Redesign the 99designs homepage competition

Sarah said:
So they are getting their site redesigned by multiple designers for just $1,000. Great. Everything about how 99designs works cheapens the value of design.

Professional Web Design said:
Holy crap, this is horrible! 99designs sucks. They will have hundreds of websites to choose from and only have to pay $1000. Way to ruin web design.

Richard Shoulders said:
Sounds like a fun challenge! Sarah, do you remember when designing things were fun? I used to love cooking until I did it professionally... had to quit because I became super jaded... Food for thought ;)

Nikki said:
The description on the contest page says it's just a one-page design, doesn't seem horrible to me. (And it also says they'll pick three designs so three people will get $1,000, the odds are better.) But then I like playing around with designing like this, and have had fun with these kinds of contests. (My boyfriend's a video game junkie and I'd say my time designing for these kinds of contests is more productive than the hours he spends staring at his screen!!)

business

The nine per cent of sorrow

Lubos is creative director at Striker, a digital creative agency based in the UK and the Czech Republic. Working with clients and other agencies, his projects cover websites, illustrations and animations.

Lubos Buracinsky

Why Adobe may regret the recent revenue model announcement

I t is fair to say the Apple app ecosystem has taught us that in exchange for using it we'll have to share the revenue from our mobile games running on Apple's platform. Yet the recent news from Adobe still comes somewhat as a surprise to the Flash community, and a rather unwelcome surprise at that.

We have learned in the announcement (**adobe.ly/HbHu12**) that for all Flash games netting over $50,000, as well as using both of what are now called the 'Premium Features' (hardware accelerated Stage 3D and domain memory), the revenue will be subject to a nine per cent share with Adobe. It is important to note, that nine per cent share only applies to the remainder of the revenues netted after the initial $50,000 is made.

So while this initially might look like a hostile move from Adobe towards the community of developers who use their platform, I think it's worth noting the change is primarily targeted at mid to larger size studios that actually make over that amount. Furthermore, when the developer uses AIR to package the game for iOS, Android or other platforms, this whole revenue sharing does not apply. So, to summarise, this really only applies to developers like Epic Games and the like, where their projects make use of the mentioned features and where these games are actually also targeted at and suitable for a browser experience. I personally don't know anyone who'd be in a similar scenario – either they are developing solely for mobile platforms, or their online Flash games use only one of the features rather than both. That has been at least the case until lately. The recent rise of HTML5 along with WebGL made it clear many developers will abandon Flash in favour of the free, cross-platform solution provided by WebGL etc. So rather than making Flash's low level hardware and cross-platform capabilities more accessible and desirable, Adobe asks people to license them.

True, it is only nine per cent. What is that compared to the App Store's 30 per cent? But actually, Adobe can't offer the same kind of service a developer gets in those ecosystems, such as being the go-to-place for games, hosting, version tracking, sales analysis and

more. So it proves it may not be such a good deal in the long run after all. Certainly, game developers with higher ambitions should keep these factors in mind before deciding how to go ahead with the technology workflow. I know we will.

Not only could this prove a bad move for Adobe, but also one of the last – and potentially fatal – events that significantly affects how developers look at the Flash platform. It may be fatal in terms of the mobile development, but it will most certainly have an impact at how new web based projects are approached from now on.

BrowserQuest showed us that it possible to develop a web-based game of a considerable quality using HTML5, JavaScript and CSS. Okay, it's not mind-blowing yet, but it shows it has the potential to be pretty complex. Actually, with a combination of the narrow gameplay and the 2D retro graphics it reminds everyone of the old-school games, which might have just made their way into the browser area years ago using nothing else but Flash. This too, is adding significantly to the wave of departing Flash developers, in favour of the native WebGL and JavaScript support.

As if it wasn't bad enough for Flash already, these days at Striker, any time we discuss a development of a new project involving technologies in question, one can almost imagine they are in Harry Potter. Not that we'd try to teach ourselves how to cast spells (although sometimes the clients think we know how to do precisely that) but it's those conversations about 'he-who-must-not-be-named', which in this case, is 'Flash'.

If things go the way they have been going since Steve Jobs' now infamous 'Thoughts on Flash' piece (**www.apple.com/hotnews/thoughts-on-flash**), I assume in a couple of years time, all those flashy (no pun intended) commercial websites that we used to make, with eye-popping animation and effects, will all be done using tools like Canvas, JavaScript and CSS. The games linked from inside of those will be done similarly using HTML5, and those initial Flash enthusiasts (like myself) will only push the Flash workflow for the aforementioned mobile development.

> " The rise of HTML5 and WebGL made it clear many developers will abandon Flash in favour of the free, cross-platform solution "

Pay As You Go Advertising

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Google

Design

Crowdsource your content

Patrick is the CEO of 99designs, the largest online marketplace for crowdsourced graphic design services. Since its 2008 launch, 99designs has hosted more than 135,000 contests and paid out over $30 million to designers across 192 countries.

Patrick Llewellyn

Compete for clients you want in crowdsourced graphic design contests

Feelance web designers enjoy a lot of benefits unavailable to the average corporate designer – flexibility, mobility, fun and creative projects, as well as working on a diverse range of brands. But they also suffer major challenges. Two of the biggest I hear about are finding new clients and building a portfolio.

Smart self-promotion, hard work and in most cases, a bit of luck can help you beat these challenges. An alternative tool you may not have considered is the crowdsourced graphic design marketplace.

In crowdsourced graphic design marketplaces, a client pays up-front and completes a design brief to launch a contest open to all designers registered with the site. Designers who feel inspired, or have a concept they would like to work on, submit designs. Over the course of the contest – usually about one week - the client posts ratings and gives written feedback to help the designers refine their work. The client chooses a winner – or more than one, as is often the case – and awards a cash prize in exchange for each set of finished design files and IP handover. All designs not deemed winners remain the property of the designers who submitted them.

Crowdsourced graphic design marketplaces have their share of critics. Some feel these sites devalue their work because not all are paid for the work they do. Designers claim that they actually take work away from graphic designers. I respectfully disagree. If you take a closer look, you'll see they actually generate million of dollars of work for graphic designers and can lead to long-term relationships.

Finding new clients
The best way to get new clients is through word of mouth. But what if you don't have enough work from word of mouth referrals to fill your working hours? You could buy advertising, but that's expensive and doesn't always work. PR is a crapshoot. Social media is hard to do well and often ineffective.

My advice: try entering a few contests. If you have solid graphic design skills and take the time to learn how the marketplace system works, you'll start to win contests. And winning contests means finding new clients. Our surveying of 99designs' design community showed that one in every three designers who wins a contest on there secures follow-on work with that customer. That's a lot of work you never hear about from our critics.

Here's some more info that might surprise you: many designers report earning thousands of dollars per month through a combination of winning contests and additional work generated through the service. Some designers have even reported earning upwards of $10,000 a month.

And these contests are not a one-way street. Customers don't typically just sit back and wait for submissions to roll in after launching a contest – they're encouraged to proactively browse other contests, identify designers whose work they like, peruse their portfolios, and invite them to enter their own contests. Many report getting work just from having their portfolios online.

Building a creative portfolio
How do you fill your portfolio with creative projects to show potential clients if you don't have any great clients to begin with?

Some would suggest entering design school competitions or creating work for imaginary clients. Those are fine ideas, but they won't give you experience making work for actual clients. Crowdsourced graphic design marketplaces help you build your portfolio with projects you did for real companies, ranging from startups to large, well-known brands. Working on projects for these clients and receiving feedback along the way, helps you hone your design skills – and even if you don't win a particular contest, you'll still have work to show on your profile and in your portfolio.

Again, the proof is in the numbers. Right now there are literally thousands of open design contests across a variety of sites. Many of these are fun, creative projects that will help round out your portfolio. If you browse the contest listings you'll see clients seeking new or redesigned websites, logos, mobile apps, eBook covers, buttons, banner ads and designs in dozens of other categories.

Crowdsourced graphic design marketplaces are growing quickly and becoming a mainstream way for businesses to get quality work done and find the right designer for their needs. At 99designs, we're already paying out about $1.5 million to designers on the site each month, and that doesn't even include all of the money designers are making from leads sourced through our service. If you struggle with finding new clients or want to freshen up your portfolio with some great new work, try a few contests. You won't regret it.

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BOOKMARKS

This issue **Web Designer** has been engaging with some of the essential technologies that designers and developers need to have in their skillset. We have selected a broad range looking at UX research, how to implement and design mobile interfaces, an introduction to the world of JavaScript and a selection of must-know development recipes. Enjoy.

HEAD FIRST JAVASCRIPT
$39.99
www.headfirstlabs.com

1 The core purpose of this Head First guide is to train the brain of users who already have a little knowledge in the field of HTML and CSS and take them onto the next plane. The **Head First** series uses a visually rich format that is 'designed for the way your brain works'. We're not sure if that is the case for everyone, but the visual concept makes it's easier to absorb on-page information.

The book is a great starting point for those who want to grasp the concepts of using JavaScript to create the basis of a more dynamic page. It covers the basics of programming, how JavaScript talks to the browser and essential code techniques.

★★★★☆

IT'S OUR RESEARCH
€28.95
mkp.com

2 **It's Our Research** looks to provide a strategic framework for UX researchers who wish to be heard by their stakeholders. It offers a host of techniques and methods that demonstrate how to involve stakeholders throughout the process of planning, executing, analysing and reporting UX research. The 240-page tome is neatly sectioned into six coloured-coded chapters, and each chapter is well laid out and follows a logical path. There are dozens of case studies to assist decision making and a fruitful outcome. A nice touch is the inclusion of a series of QR codes that link through to a host of related sites, and video interviews with UX researchers and practitioners.

★★★☆☆

DESIGNING MOBILE INTERFACES
$49.99
www.oreilly.com

3 Mobile platforms are slowly but surely taking over from the big screen, and creating small-screen friendly is an art that needs to be added to any designer's toolset. **Designing Mobile Interfaces** provides practical techniques to help designers build UIs that capture the imagination and provide an effective path through a site or app.

The book looks at a comprehensive collection of practices that will ensure designers compose pages that offer the right visual clues and interaction.

This is a great reference guide and should be sitting on the shelf on any designer who is looking to create UIs for the small screen.

★★★★☆

WEB DEVELOPMENT RECIPES
$35.00
www.pragprog.com

4 This is a developer's cookbook with forty tried and tested 'recipes' across a spectrum of languages. The four authors contribute a collection of popular techniques, eg Styling Quotes with CSS, Organising Code with Backbone. js and Cleaner JavaScript with CoffeeScript. The problem is the almost random selection of the chosen techniques. All the recipes reside under a broad heading and use a host of tools, which negates the book's obvious purpose. It's difficult to see how much value it holds. Will you use all the recipes or just need the help of a few? This book holds a great deal of useful titbits but struggles to bring them together in a coherent manner.

★★★☆☆

3

Patterns for Interaction Design

Designing

Mobile Interfaces

O'REILLY®

Steven Hoober
& Eric Berkman

4

The Pragmatic Programmers

Web Development Recipes

Brian P. Hogan,
Chris Warren,
Mike Weber,
Chris Johnson,
and Aaron Godin

edited by Susannah Davidson Pfalzer
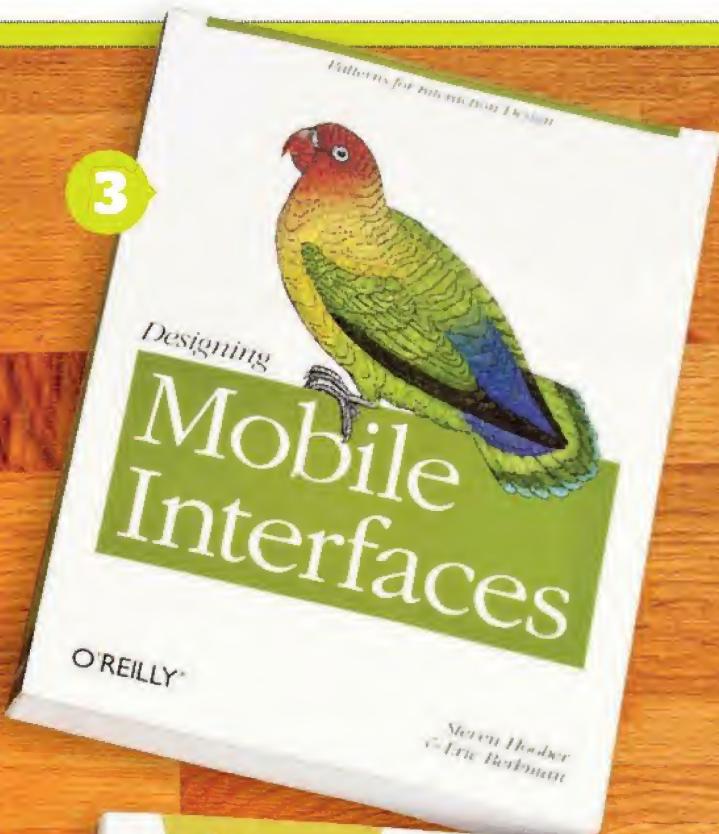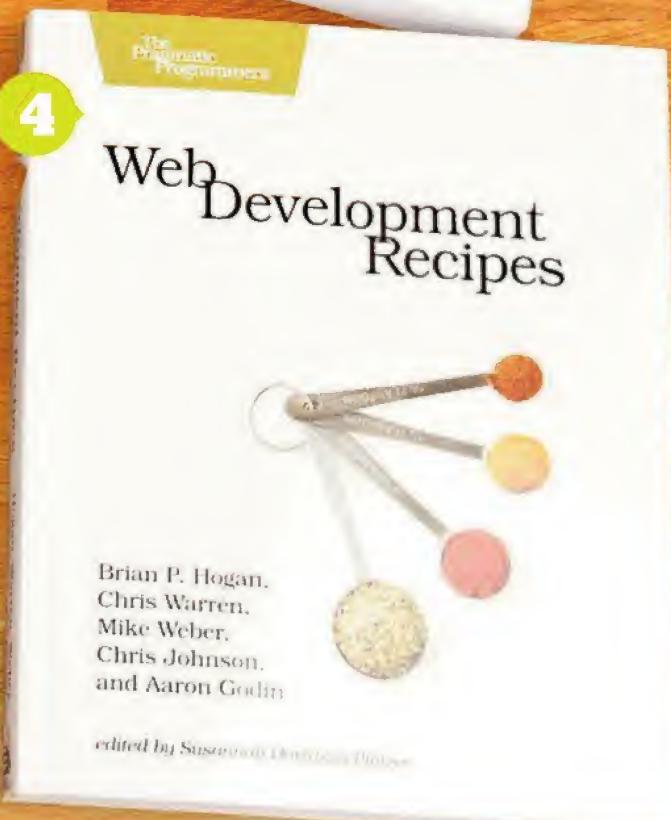
WEB SERVICES

Loft Resumes
From $99.00
www.loftresumes.com

A resume, or CV, is a simple representation of your current skills, education and interests. Typically, it's a couple of A4 sheets of black and white text. Designers need to be more creative and grab a prospective employer or client's attention. Loft Resumes offers a collection of beautifully crafted templates that demand attention.

IOS APP

Textastic Text Editor
From £6.99/$9.99
bit.ly/o JtYNF

If you need to view and edit your source code on the move this app is an editor that holds the answer. Alongside its editing capabilities, users can connect to an FTP server or even a Dropbox or iDisk account to transfer files form a Mac or PC.

ANDROID APP

Create-O-Mat
From Free
bit.ly/HMG3kK

The creative process is not always an easy one, and occasionally a helping hand is most welcome. The Create-O-Mat app is a simple and easy to use affair that gets the user to select a brain size and hit the Go button to create a three-word solution that will immediately start the creative juices flowing.

LIGHTBOX

Gallery of stunning web design

Mozilla BrowserQuest

browserquest.mozilla.org

Development technologies JavaScript, WebSockets, HTML5 Canvas, HTML5 Audio, CSS3, Node.js.

LITTLE WORKSHOP

Designer **Mozilla and Little Workshop**
www.littleworkshop.fr

The power and versatility of HTML5 is shown off with great aplomb in this retro multiplayer game
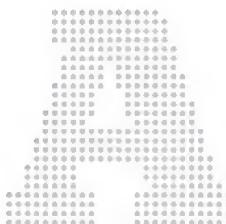
nyone of a certain age that can remember the games they played on their ZX Spectrum will feel right at home with *BrowserQuest*. Using the latest HTML5 (eg Canvas and WebSocket) the melding of the latest browser tech and retro gaming is realised with ultimate skill and attention to detail.

The designers have worked hard to ensure the gameplay is smooth within the browser with Firefox, Chrome and Safari all supported. With no plug-ins or other technical additions necessary you can jump right into the game.

Of course the graphics won't win any awards when compared to today's MMOs, but that's really not the point of *BrowserQuest*. As Paul Rouget wrote on the HacksMozilla blog when the game was launched: "You play as a young warrior driven by the thrill of adventure. No princess to save here, just a dangerous world filled with treasures to discover. And it's all done in glorious HTML5 and JavaScript."

As the first HTML5 MMO, the game is testament to what is possible with the new web standard. And of course, the code is open source so anyone can see how the game was built and learn from this experiment. What this site shows in abundance is that Flash is no longer the only sheriff in town when it comes to browser-based game development.

The 16-bit feel of the game is superb, and with the collection of web technologies that Little Workshop has used, you really get a sense that HTML5 is here to stay and will be stretched even further in the future.

> ❝ No princess to save here, just a dangerous world to discover. And it's all done in glorious HTML5 and JavaScript ❞

<Above>
· The scrolling landscape and your own little avatar are rendered in enough detail to engage the player in the game

#26C374	#E5CEB5	#C7C7C7
#4F4727	#7A4552	#6E7BA8

abcABC 1234567890
abcABC 1234567890

<Above, top to bottom>
· GraphicPixel is a free font created by Giorgio Catalisano and available from **DafonLcom**.

· Advocut is another free font from Mieps that can be used for non-commercial purposes and is also available from **Dafont.com**.

LIGHTBOX

‹Bottom left, clockwise›
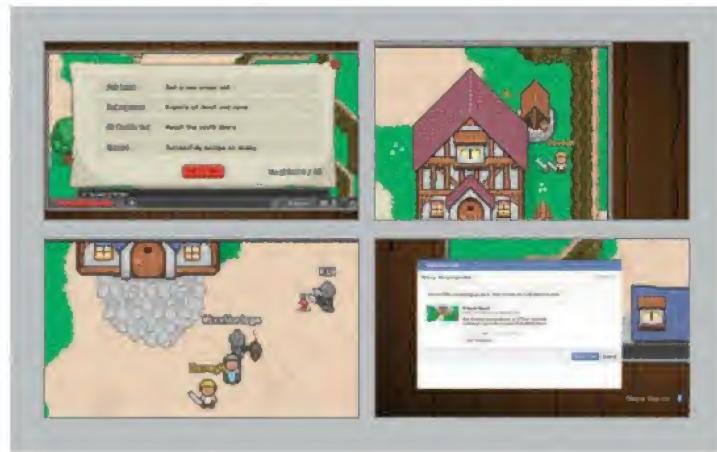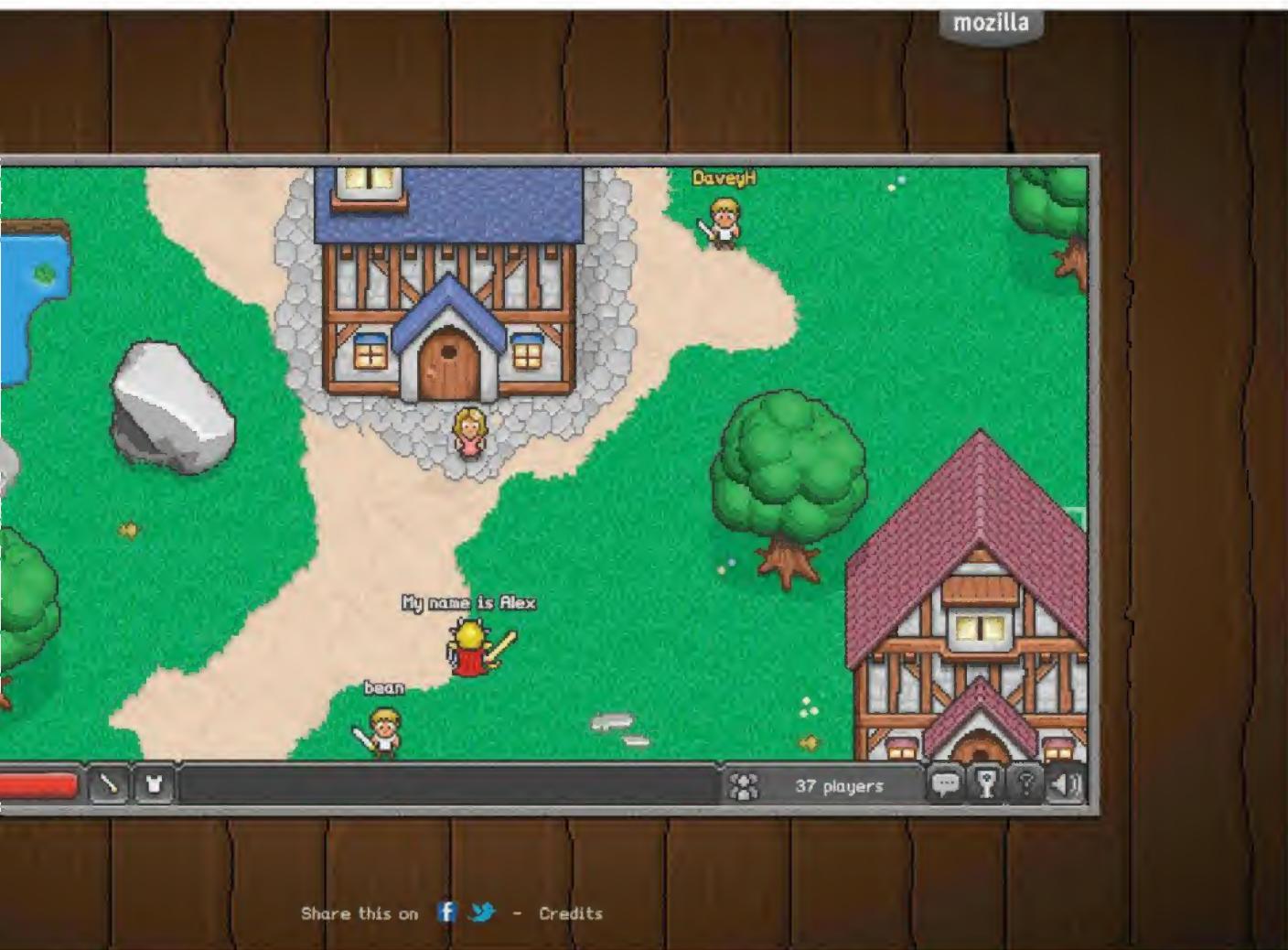
• As you encounter other players – and there can be many playing at once – you can open an instant chat

• As you move through the game you are rewarded as your character completes key tasks

• Tasks to complete include the collection of weapons and other useful items that your avatar will find essential later in the game

• The designers of *BrowserQuest* have not forgotten social networking. Share your game progress on Facebook and Twitter

‹Above›

• Your avatar is automatically created and saved for you. The graphics are crude, but add to the charm of the game

The Big Burn
www.thebigburn.ca
Development technologies Flash, JavaScript, CSS

Designer **ZGM Collaboration**
www.zgm.ca

Flash is used effectively to engage with the site's viewer, and deliver content that educates, without resorting to the usual scare tactics
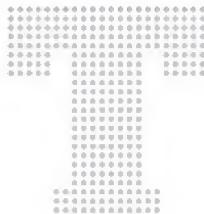
The risk of tanning salons may not be the most design-oriented subject, but ZGM has bought its considerable talents to bear and delivered an engaging experience.

As a piece of graphic design the site is simple yet effective. The almost subliminal transition from tanning salon to hospital room is striking and unexpected; it jolts the viewer into paying more attention.

Peter Bishop, digital creative director at ZGM commented: "The site needed to be an experience. Using a combination of 3D and Flash, we created a tanning room that we could manipulate and control, which enabled us to create an identical hospital room to emphasise the similarities. The same effect could have been achieved with

photography, but given the budget and the amount of interaction required, modelling the room made more sense."

The site is also a jumping off point for a host of information that visitors can download. These include easy-to-digest infographics to more in-depth medical information about the risks of staying in the sun too long. The designers have thought out the interactive components of the site to deliver to the user just the right amount of information when it is requested.

Bishop concluded: "Key information isn't buried in body copy; it's brought to the surface. Using infographics and hotspots, the content becomes more accessible, engaging and, hopefully, impactful." This is not your typical public service information site. The level of engagement is way above what you would expect simply because of the approach taken by the designers.

<Above>
• The homepage of the site is a fully rendered image that includes many interactive elements

#E5D4BF #D8A85F #000000
#88CFBA #5F6D4F #814F2B

❝ Key information isn't buried in the body copy. Using infographics and hotspots, the content becomes more accessible, engaging and, hopefully, impactful ❞

abcABC
1234567890

<Above>
• Proxima Nova by Mark Simonson Studio is available from Typekit.com.

THE BIGBURN

Explore the salon to see what's behind the burn.

BASE TAN
BEFORE
YOUR TRIP

FIGHT BACK

ARTIFICIAL TANNING 101   SKIN CANCER   OTHER RISKS

Search   THE BIGBURN

<Below>
• Each hotspot reveals a new information panel, which is animated to further engage the visitor

<Top left, clockwise>
• To jar the visitor to attention, the site transitions into a hospital room that bears a striking resemblance to the tanning salon

• Hotspots within the homepage image reveal detailed information about the various health risks associated with tanning salons

• Stylised graphics are used throughout the site to allow detailed information to be accessed quickly and easily

• Infographics are used to deliver key pieces of information in a non-threatening and non-judgemental way

LIGHTBOX

Know a site that deserves to grace these pages? Tweet us now 🐦 @webdesignermag
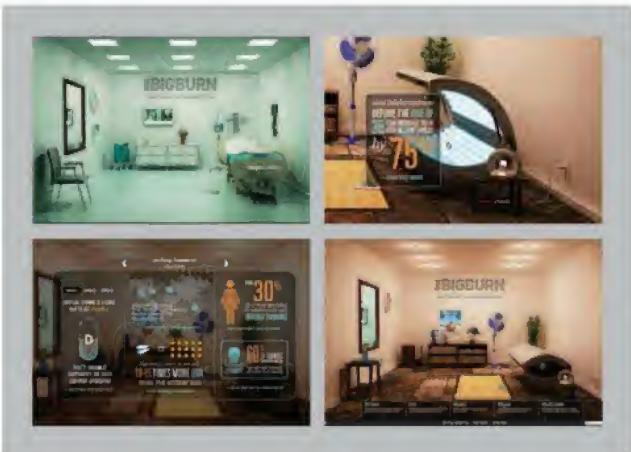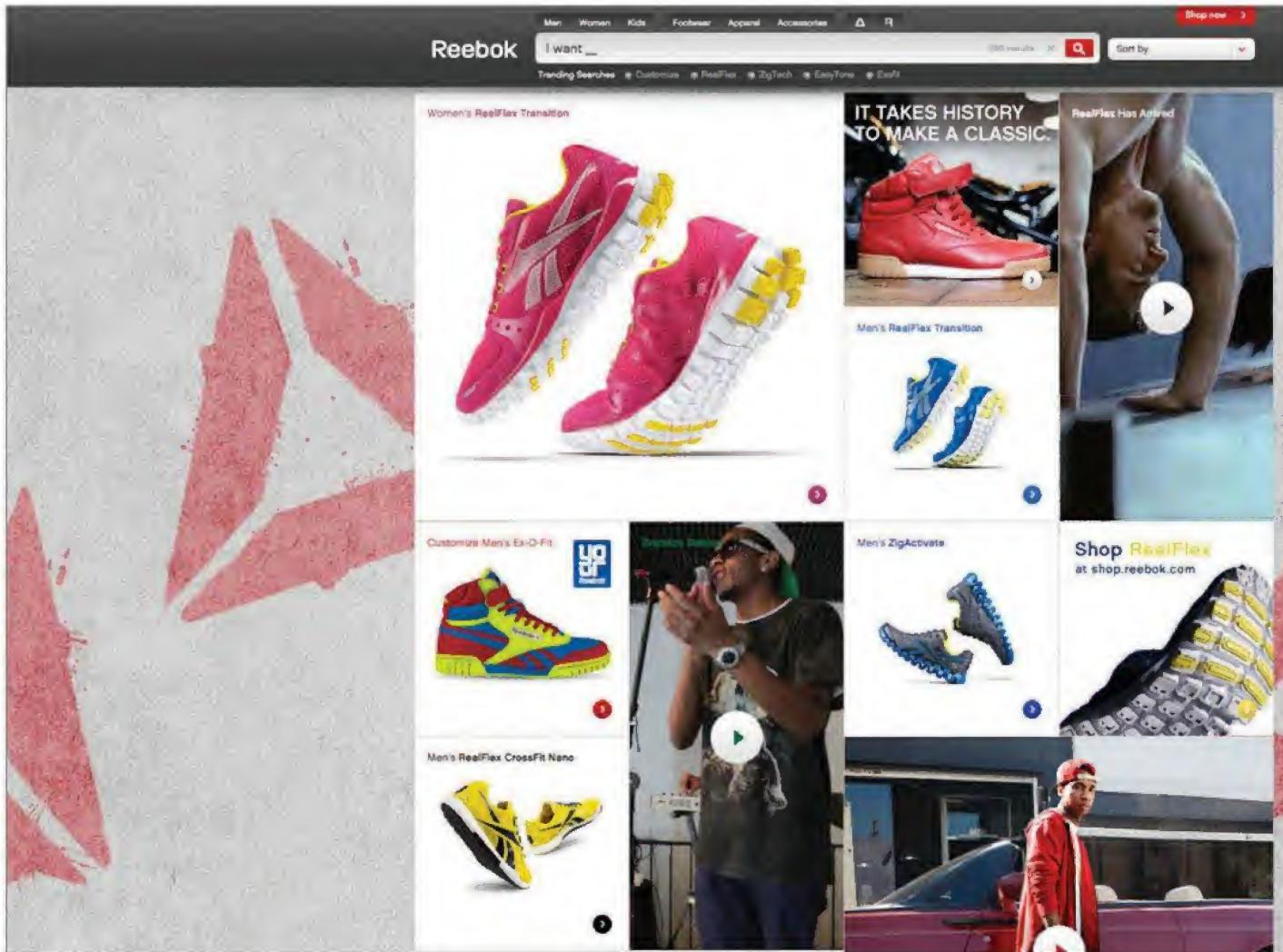
<Above>
· The Reebok site hands off to the eCommerce site, but ensures that it hooks the viewer with video, still images and audio about most products on the site

<Above>
· The Reebok site doesn't forget that they are about selling product, so ensure their ranges jump off the page with superb imagery

<Above>
· Intelligent search is at the heart of the Reebok site, which is available in all languages supported by the company

#8F0017   #3F3F3F   #099099   #FFFFFF   #A5A5A5   #080707

<Right>
· Ads and other promotional materials rub shoulders with products to create an immersive experience for site visitors

Reebok

www.reebok.com/en-US/

Development technologies EPiServer CMS 6 R2, Web Server IIS 7.5, Code framework ASP.NET 4.0, HTML5, jQuery, CSS3

Jakob Kahlen, creative director, Hello Monday

Per Osbeck, tech architect, LBi

Designer **LBi Sweden / Hello Monday**
www.lbisweden.com / www.hellomonday.com

The new Reebok US site redefines how consumers can interact with a brand via search within their site
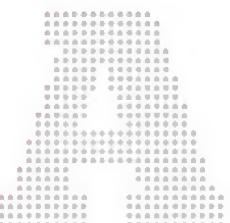
At first glance the Reebok US site looks similar to other brands sites that have adopted the tile design approach to present their product ranges. However, it's when you dig a little deeper into the site that you realise what a technical triumph it is.

The two agencies that have collaborated on the site have clearly played to their strengths. Jakob Kahlen, creative director at Hello Monday commented: "The new website redefines the search experience on a brand site by introducing personalised real-time search. Unlike traditional brand sites, **Reebok.com** encourages users to search." Using Apache Solr, the site delivers its content accurately and at astonishing speed.

As the entire site is built on a CMS platform, the content can be updated at any time. "The central hub in the digital ecosystem is a CMS offering a unique user-centred approach to the entire system, focusing equally on end users and administrators with the aim to make the experience fun, fast and useful for both," says Per Osbeck, tech architect at LBi.

Few sites can claim to be as dynamic as Reebok's, as each block of content within the grid of the site is constantly being updated. Whether the site is viewed on a PC or a tablet, the layout may change - but the content is the same, offering visitors a user experience that supports Reebok's core brand values.

Few sites can claim to be as dynamic as Reebok's, as each block of content within the grid of the site is constantly being updated with new content

<Above>
• Each transition is divided with a short full-motion video excerpt that is fast moving and dynamic

Design diary

Ride the development cycle

Project | **hardgraft**
Company | **hardgraft (in house)**
Web | **www.hardgraft.com**

This issue: The bespoke product designers explain why their perfectionism led to designing and developing their webstore in-house

hard graft ®

Background

In-house duo James Teal and Monie. Ka take control of the Hard Graft web experience to produce a finish worthy of its bespoke products

Hard Graft, originally titled Working Class Heroes, was born back in 2006 with little thought for the future and little business knowledge. However, founders James Teal and Monie.Ka had a clear vision to create honest handmade products from natural materials with original and clever designs. Hard Graft's values are built upon the fact that real craftsmen in an Italian workshop create its products.

A few years back Hard Graft decided that the combination of wool and leather needed to be applied to tech accessories. It wanted to use high-end materials to create unique and cleverly thought through designs that offered unrivalled attention to detail and stellar craftsmanship. Its bespoke signature style is brought to life by two young and talented Italian leather artisans and their own specialist selection of materials. Hard Graft uses its own premium blend of one hundred per cent wool felt and premium one hundred per cent vegetable-tanned Italian leather. To compliment Hard Graft's obvious offline talents, its online section is kept in-house. James Teal, designer and co-founder, explains, "We have been designing and building our own website in-house ever since we changed our name to Hard Graft back in 2007, it all started as a pretty simple online shop in a classic layout. Over the years the website grew, like us, and like our products. Design is to me, next to quality, the most important part of our job, doing it in-house was the easiest, most honest way. I think we would have driven an external agency crazy – we are perfectionists."

Monie.Ka, founder/designer

★ DIARY STATS ★
3 PEOPLE PROJECT STAFF
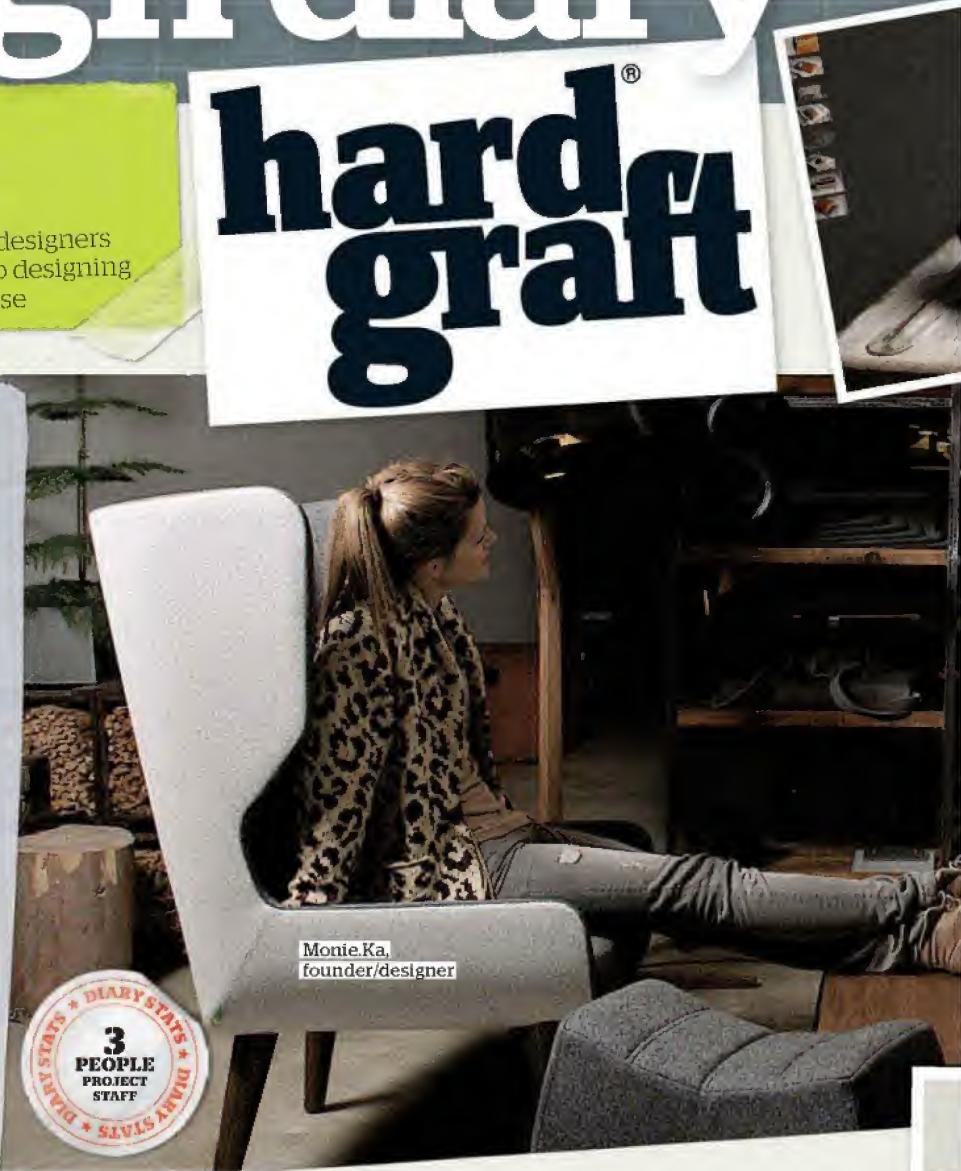
1 Concept

Hard Graft sells products, and this provided the starting point for the whole site. No shop window, just straight into the action

Teal: "Our first thought when creating our current website was to delete everything unnecessary and get straight to the point. Like so many online shops there is a homepage with this mood image, equal to a store window in the real world. We thought: 'wouldn't it be better to just delete this barrier of the window?' You come to Hard Graft and are immediately right in the shop, surrounded by all our beautiful, hand crafted goods. They really are photographed so well that you can almost feel them."

2 Design

A straightforward design process powered by Photoshop mock-ups helped visualise the Hard Graft concept. A revisit after a couple of days away from the design ensured the right option was selected

Teal: "The design process was pretty straight forward. First, draw up ideas in our Moleskine, discuss it together with my partner Monie.Ka and then create some Photoshop mock-ups. We visualised every single page first, slept on it for a few nights, and if we still thought it was a good layout we stuck with it."

120 HOURS WORKLOAD
DIARY STATS

3 Build

Choosing the right backend for the Hard Graft webstore was critical to its success, and after a lot of research, Shopify got the nod ahead of the old eCommerce platform

Teal: "With our last website we had Magento as the online shop backend. As designers we didn't like the look of it at all. Everything seemed so clumsy, so we did a fair amount of research to find a better platform. Since designing and programming our entire website in 2007, a lot has changed and luckily there are pretty good online shop platforms available now. We settled on Shopify and implemented our new designs, but this was the biggest challenge as Shopify has a few limitations, like maximum image sizes and its own language. We had to find creative solutions to achieve the perfect layout and functionality. However, multi-currency handling and multi-browser functionality needs ongoing maintenance – we're still fighting a bit on that challenge."

James Teal, founder/designer

2 MONTHS PROJECT DURATION
DIARY STATS

hard graft

WORKING CLASS HEROES

The launch

Teal: "Launching the website was pretty scary. When we did the previous Magento store, the site kept crashing every time we sent out a newsletter. So we wanted to make sure it kept up with the traffic. Apart from our newsletter, we've never done any advertising. Thinking back it was a pretty smooth start, a few minor errors here and there which we fixed on the go. Our products and designs are geared towards the creative professional who has an eye for quality and loves details and individuality – they can see that we put a lot of effort into the website and I would like to think that they really appreciate it. Even though we are product designers, we proved that you should follow the design through to the packaging, branding and, well, your website. Everything fits together perfectly."

Less is

Adrian Callaghan
– lead back-end developer

Lucas Motta
– front-end developer

Ilenia Cippolari
– production manager

Angelo Wellens
– design

Vassilios Alexiou
– creative director

Digital production house Less Rain reveals how it creates worlds that are less predictable, how the weather influenced its name and why Flash is still the best tool for creating truly engaging multimedia experiences

who Less Rain **what** Digital production specialist delivering rich interactive experiences **where** 5 Calvert Avenue, London, E2 7JP **web** www.lessrain.co.uk

Less Rain is a digital production house, specialising in delivering rich media interactive experiences across platforms. It was formed by Vassilios Alexiou and Lars Eberle in 1998, after completing Middlesex University's MA in Design for Interactive Media.

Less Rain's first press release gives an insight into its ethos as a company: 'Less' is a byword for the Less Rain ethos. We create worlds that are less predictable without being impractical, devising solutions that are

more

Andre Anaya
- front-end developer

James Hunt
- front-end developer

Luis Martinez
- front-end developer

Dave Curtis
- senior production manager

desirable and intuitive. By creating small, perfect worlds, our goal is to deliver digital experiences that are more about intriguing exploration than off-the-shelf effects'.

Less Rain operates in information, entertainment and participation spaces, creating interactive content for a variety of devices, games, corporate and consumer websites, applications and physical installations. Their work is characterised by strong concepts, engaging interaction and performance-friendly implementation. And Less Rain has been rewarded for their hard work with awards from D&AD, BAFTA, Cannes Lions, Clio, One Show, BIMA, Webby, Flash in the Can, FWA, Creative Circle and the Lovies.

Less Rain is a long-standing member of the digital design fraternity, with over 15 years' experience. Founder and creative director Vassilios Alexiou gives a brief insight to how the agency got together and stayed together. 'When we got together, we had one thing in mind: to engage via playful interactivity, to captivate people via unusual concepts and interfaces.

'At the start we did not have any clients – we just did what felt right and talked about it, in the hope that some commercial work would come through. In late 2000 we released 'Eyes Only', a CD-ROM that pretended to come out of some academic search for extraterrestrial life and allowed you to connect to a series of fake webcams and capture stages of on-

screen phenomena that we had choreographed to happen at certain times.

'Today we work mostly on commercial projects, but the aim is pretty much the same: to suspend disbelief with original, bespoke work, and to do it in such a way that the technology is invisible.'

The name of an agency immediately makes an impression. Alexiou tells the simple tale of how the agency name came into being. 'We did not want a name that immediately says 'digital', so we avoided using words like level, floor, unit, section, etc. It was raining a lot at that time, plus we all share the design aesthetic of 'less is more' – using less elements, working well together to create a bigger impression.

It's not all work, work, work. There is plenty of time for play as well

Attention to detail is crucial and a second opinion is always welcome
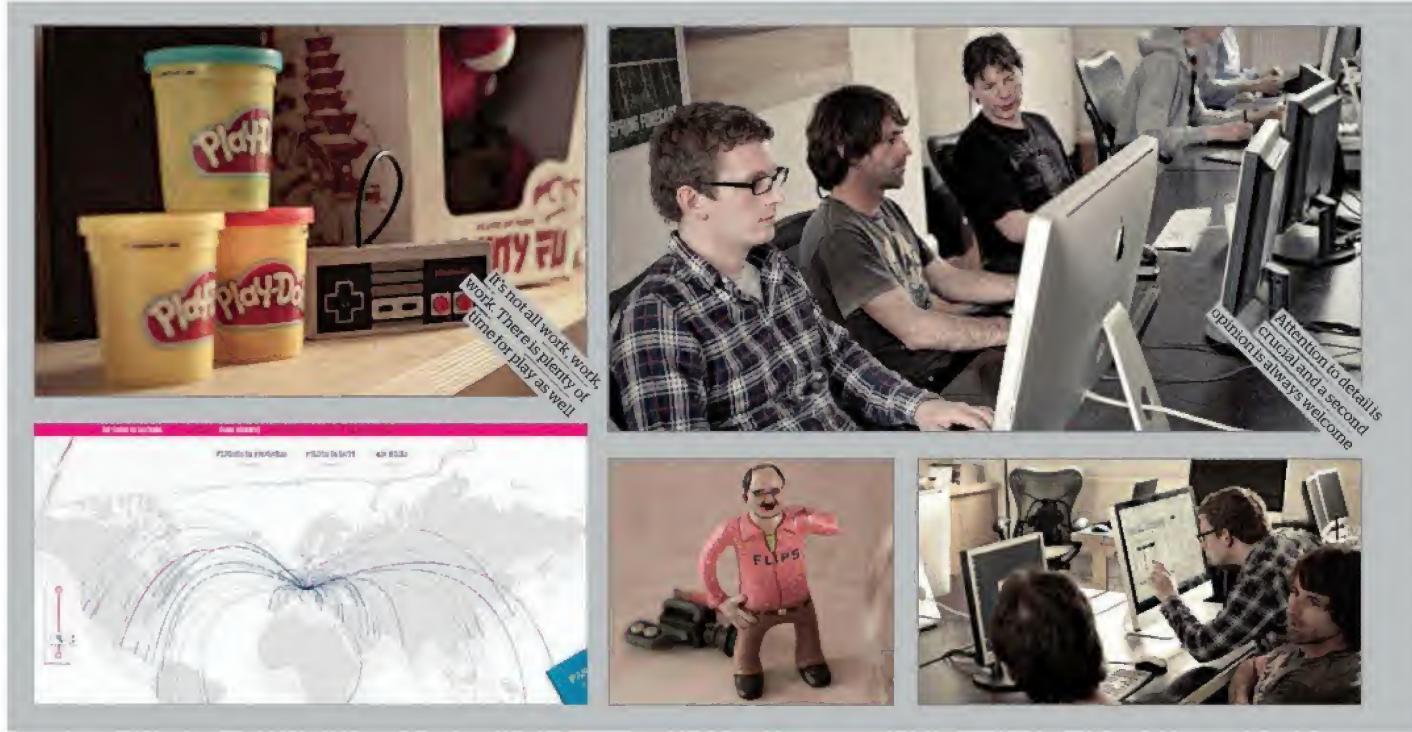
Less Rain timeline

Established **1998**
Founders **Vassilios Alexiou, Lars Eberle**

Creative Review showcases the company as part of Creative Futures 98.

Number of employees
6

Less Rain launches online graffiti website **www.vandalsquad. com**

1997	1998	1999	2001	2002	2003

Number of employees
2

Less Rain starts as a core team of two people, after winning the student 1997 D&AD award.

It releases a number of non-commercial projects, and wins the 1999 Macromedia Conference People's Choice Award.

The Red Bull UK account is won, along with a BAFTA for experimental project 'Eyes Only'.

Less Rain crafts 'I shake you' for Mitsubishi and wins gold at the One Show Interactive in NYC.

The production of 'Insanely Driven' involved two teams, live-action and digital and about 35 very special people

"We were lucky that the URL **lessrain.co.uk** was available, otherwise we would probably have had to rethink the name!"

Alongside the name, its web presence is one of its most important presentation tools to the rest of the web. Alexiou gives his thoughts on the importance of Less Rain's very own site. "The website does a lot of the work, but it is not the only presentation tool. We have **blog.lessrain.com** that follows our activities in more detail, as well as Facebook and Twitter.

"Keeping it up to date is quite easy – we have a very simple custom CMS that publishes information on the mobile (HTML), tablet (HTML) and online layer (Flash). We are updating it with new projects – all other newsworthy stuff is channelled via our blog."

With a long-standing presence in the industry finding new clients is obviously one of Less Rain's strong points. Alexiou explains how the agency gets most of its new clients. "Most of our new business comes through recommendation. We try and do our best work every time, then we talk about it and submit it for awards. We will go and present to the agencies we respect, but we are not very aggressive – there is not enough time, as we are always busy!

"But we do target specific kinds of work – at the moment it is interactive films, and in general interactive stories that live online but also as apps. We are also aiming to do more trans-media work."

Less Rain has worked with some very well-known big brand clients. We asked Alexiou if there is any type or size of project that the agency will not take on. "We are very open to the kind of projects we take on. We like to take on new challenges and enter spaces we are not naturally very comfortable in; we learn this way and develop new skills.

"We tend to not take on very small projects, as we know that in the end in order to be happy with the work ourselves we will end up doing much more than what we are paid for.

"Then there is the odd client that we do not really wish to work with again, but often this is mutual, so there are no hard feelings. We try to 'screen' our clients as much as we can, especially when we are

THE ART OF FLIGHT

A hot beverage is the perfect accompaniment to great design

A third office in Tokyo is opened.

Less Rain wraps the Tokyo Office, releases 'Red Bull Soap Box Racer' and wins at the Webbys and Flash in the Can.

The interactive film 'Being Henry' is released, which is awarded the Creative Circle award.

Number of employees
16

| 2005 | 2008 | 2009 | 2010 | 2011 | 2012 |

Number of employees
14

'Red Bull Flightlab' is released and Flash in the Can, Cannes, Clio and BIMA awards won.

'The Land of Me' is released on multiple platforms and wins a BIMA and a Lovie.

The interactive film/ personality test/ game that is 'Insanely Driven' goes live.

" [Less Rain is] still very much Adobe-centric for rich-media experiences "

asked to do a pitch. We ask them how they know us, or what project they like from our portfolio – we want to know that they really like us and are not just trying to find an 'extra' company to take part in the pitch.

Projects involve a host of personnel. Alexiou and senior production manager, Dave Curtis, give insight into the typical roles and how development takes up a large part of the process. VA: "We organise projects around a production manager, who 'owns' the project. They work with the creative director who makes sure there is a vision for the project, does the UX, manages the team internally and interfaces with the client. The rest of the team for a typical digital project is usually a designer, a 2D/3D animator, two or three front-end developers and a back-end developer.

"Sometimes the project is huge, in which case we double or quadruple that. The production of 'Insanely Driven' – www.insanelydriven.com – involved two production teams, live-action and digital and about 35 very special people."

DC: "In general, the most time-consuming part of whatever project we are doing is always development – but good preparation before any code is written always minimises the amount of time required. Rushing into writing code always causes problems later on in the project."

Projects are always driven by the tools used across an agency. Alexiou and Curtis give a rundown of the design and development software that sits in the Less Rain toolset. VA: "We are still very much Adobe-centric

for rich-media experiences, using Adobe AIR to deliver our work online and as applications. But with websites we will go for HTML, CSS and JavaScript. We will always work with the technology that is most appropriate for the project."

DC: "For design, it's always the Adobe Creative Suite. You just can't beat the power and usability of Photoshop, Illustrator, etc. However, for development, we use a variety of tools, favouring FDT for our Flash work, OmniGraffle and Axure for our UX, and tools like Charles or Firebug for testing. To help communication among the team, as well as the client, we love using Basecamp. It really helps to have everything in the project in one place."

Flash is a controversial technology that has recently seen itself marginalised more and more by many web designers. Alexiou and Curtis explain why they believe it is still an important platform for creating rich, interactive content.

The only way is up for senior production manager Dave Curtis

❝ Flash provides us with the tools to develop rich but engaging content – which many other technologies can't match ❞

VA: "When it comes to truly engaging multimedia work, Flash and Adobe AIR are still the best tools to work with. Adobe has been very bad in its PR and Google very good, but the truth is HTML5 has still a bit to go. Why create a mediocre game with HTML5 when you can create an amazing one using a more appropriate technology?"

DC: "Flash has been the backbone of interactive development for many, many years. It provides us with the tools to develop rich but engaging content – which many other technologies can't match. There are some other excellent technologies out there (Unity 3D and Adobe Edge are two great tools worth checking out). The problem lies in that these tools each only provide part of the solution – and greater time and effort is required to tie them together into a seamless user experience."

While Flash may have its place in the design and development hierarchy, HTML5, CSS3 and jQuery are the current golden boys. Curtis gives his thoughts on what they have to offer, and the flaws that current code-based web technologies have. "These technologies are opening up the possibilities to develop engaging content outside of Flash. They simplify the ability to provide interactive, cross-platform solutions. The main problem with the web is that interactivity is still based on pages of content. This restricts the usability of the end product – with the end-user constantly loading new content from the web, causing delays, which breaks their flow. The increased use of apps on mobile devices, but increasingly on TVs, is increasing the customer's awareness of engaging interfaces and highlighting the flaws in current code-based web technologies."

Driving traffic to a site is always a crucial aspect of its success. Alexiou and Curtis explain how social engagement is an integral component of a project, but sometimes the heights of its potential is not always realised.

VA: "Driving traffic to a site is more important than ever – you need to cut through. But due to the fact that as a production partner we are not always in control of the PR budget, we often see outstanding pieces of work not realising their full potential."

DC: "Social engagement should be an integral part of any online, or mobile, project. But you'd be surprised how many projects are briefed in without any social engagement. Yes, we can post to Facebook and Twitter, but social engagement is a two-way activity. The client needs to engage with their customers online in order for the customer to engage with their brand. We always try and think of solutions to engage with the social network, and include it in clever ways in the projects we do. Our recent project for Red Bull – Paper Wings – allows users to design a 3D paper plane, and launch them towards Salzburg where Red Bull hosts its annual paper plane competition. Any social engagement boosts your

plane closer towards the destination. The more you are engaged, the quicker you fly."

Smartphones and tablets are now as important as the desktop experience. Alexiou talks about how apps and responsive design are key components in today's design process.

"In terms of apps, if there is budget to create two separate apps (iOS and Android) then we would go for two separate code bases - and utilise the benefits of each platform. But if we were looking to release something online, on tablets and mobile, we would go for a single code base using Adobe AIR.

"In terms of websites, if we are looking to create a strong user experience and not just a portfolio website, and if there is enough budget for it, we might go for two code bases: one using Flash and one using HTML. But in most cases we will go for a responsive design that's done in HTML."

People are the force behind any creative agency. Alexiou reveals what he looks for in a prospective employee. "Personality is a key factor - sometimes more than skills. We like people that are easy to work with, confident and happy to be part of a team.

"At the same time, we are looking for problem-solvers, people that love challenges and are motivated by the end result. You are only as good as your last project, so everyone makes sure that the final product represents us all.

"Focus is definitely key - sometimes you get very talented people that spend a lot of time checking out Facebook or Skyping their mates, ending up staying late in the office. We prefer focused people that come on time and leave on time."

less rain ❋

WEB	www.lessrain.co.uk
FOUNDERS	Vassilios Alexiou, Lars Eberle
YEAR FOUNDED	1998
CURRENT EMPLOYEES	16
LOCATIONS	London, UK Berlin, Germany

SERVICES

> Interactive films
> Games
> Apps
> Websites
> Installations

less rain ❋

KEY PROJECT

Insanely Driven
www.insanelydriven.com

Produced by Less Rain, and built for Euro RSCG and Reckitt Benckiser, with the help of Dr Tomas Chamorro-Premuzic, professor of Business Psychology at University College London, 'Insanely Driven' is an interactive experience that uses dramatisation to engage users and reveal their true characters through their choices.

Insanely Driven is packed with entertainment value, combining action, comedy, drama and science fiction. The experience is in equal parts an interactive film, a character profiling application and a game, and is being delivered across mobile, tablet and online platforms.

The brief for the project was to build an interactive experience following extensive internal character profiling at Reckitt Benckiser, which revealed that many of its employees share similar personality traits: eg ambitious, cool-headed, fearless and direct.

It aims to drive awareness and understanding of the culture behind Reckitt Benckiser (RB), a global leader in health, hygiene and more.

Less Rain proposed an interactive film, as a way to engage its users, 'suspend disbelief' and get some truly honest responses. The agency were responsible for the live action as well as digital production, working with a multidisciplinary team of around 30 people to write, design, shoot and edit the film parts.

The Insanely Driven experience takes place in a highly suggested set, and is centred on three versatile actors that play a multitude of roles. Players are asked to make 16 choices that are embedded in the narrative in a very intuitive way - this involves choosing an outcome, person or object from between two or three options. Each choice is rated in terms of ambition, cool-headedness, fearlessness and directness.

Players race against time and need to react fast in order to reach the end goal in time. At the end of the game, the user is presented with their individual profile as well as comparative data according to age, country of residence, profession and Facebook friends.

I ♥ Blog Beautiful

Tumblr blogs

The Tumblr platform now has nearly 53 million blogs. Here we choose six tumblelogs

It's simple and obvious, the perfect components needed by a logo. The user will know exactly where to go when they want to reach the homepage.

Sitting alongside the main blog is a Buy Issue logo that is fixed in to position making sure that the logo is always visible and available.

Put This On
www.putthison.com
Development platform Tumblr

Put This On is a blog that takes a look at style and finds the almost ideal companion with its neat grid-like theme layout. The bright red/orange logo offers an immediate identity and lends itself to the overall colour scheme. The two columns keep the page uncomplicated and crisp clean font titles are very much in keeping with the content.

XXX
www.gratuitoustype.com
Development platform Tumblr

This blog verges on minimalist, with a sea of white space making its presence felt. A triple X text header acts as an intriguing focal point and instantly directs the viewer to the content. The individual posts are unpretentious title, image, text combos that use a compelling font, interesting images, industrious intros, and bright pink links to get viewers reading.

Cheat Sheet
cheatsheet.tumblr.com
Development platform Tumblr

The colour combination of red, black and white and clean sans-serif fonts give this blog its obvious impact. The logo is an effective page header that gives a focus to the content. The layout is typical three-column, but the functional and effective use of images and text add interest. The inclusion of an unobtrusive back to top icon is a welcome touch that adds usability to the aesthetic.

that showcase just how impactful the simple art of microblogging can be

If a colour strikes a chord, the accompanying hexadecimal code can be added to a palette of colours for use in any page design.

The style and set up of the blog means that the aesthetic is the key and selecting the Random link chooses a single post to engage the user.
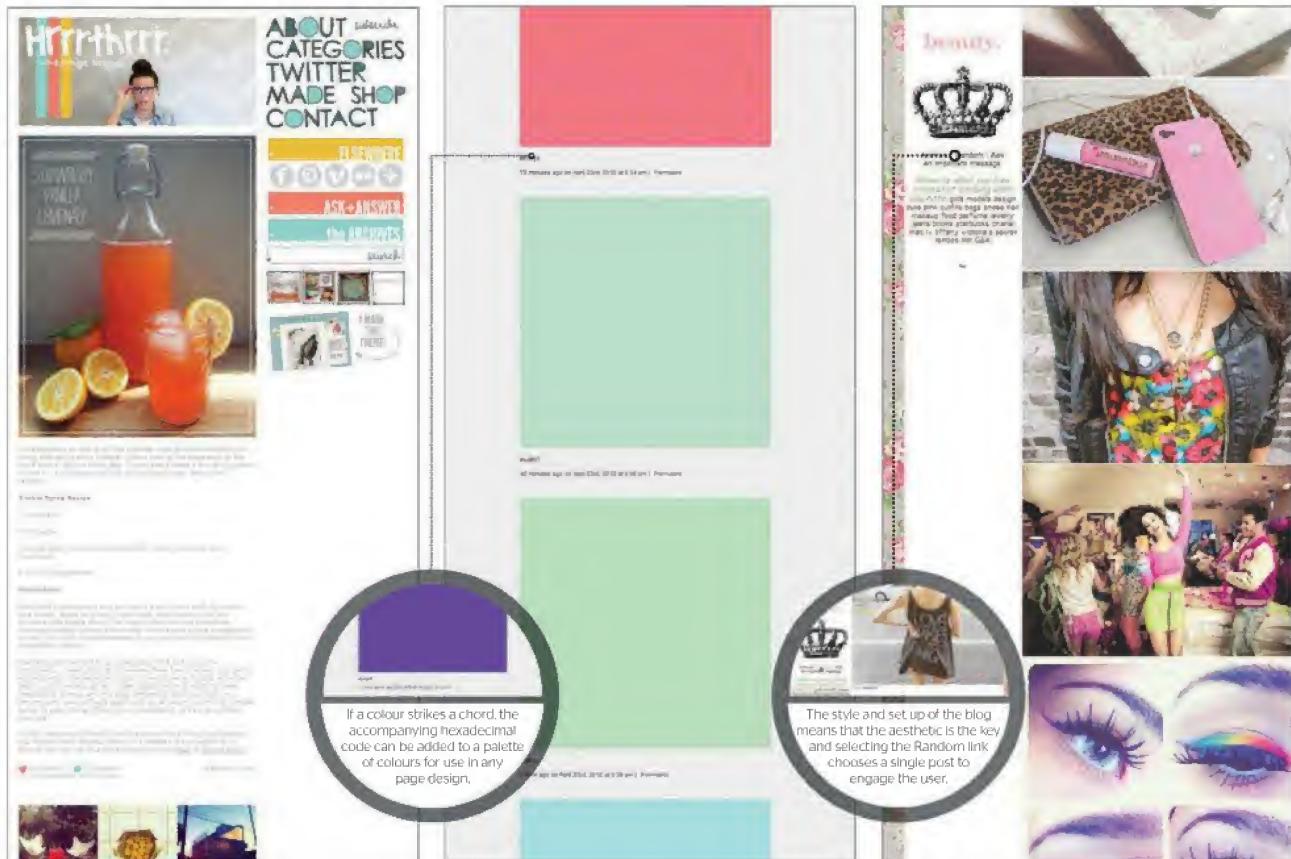
Pretty Colors is about as simple as it gets, with a plain white background and single posts boasting a big block of colour

Hrrrthrrr
www.hrrrthrrr.com
Development platform Tumblr

The header combines pastel colours, simple photography and hand-drawn fonts for instant impact. The home-made elements permeate throughout. Detailed touches help create the ambience of the site and individual posts. Bold photography and images accompany each post to encourage the viewer to explore further.

Pretty Colors
prettycolors.tumblr.com
Development platform Tumblr

This site is about as simple as it gets, with a plain white background and single posts boasting a big block of colour. The title uses the ever popular Helvetica font family, swapping out its default colour only on rollover. Each colour block is accompanied by its hexadecimal code and that's about it, but its simplicity is also the key to retaining its interest.

Beauty
-beauty.tumblr.com
Development platform Tumblr

There is nothing extravagant or pretentious here but a simple single-column blog that makes great use of images and text. A simple floral repeating background provides the wallpaper for the page and adds instant interest. On a more technical level, a fixed logo and menu stays in place while the main content scrolls through a stream of accessories.

WORDPRESS SECURITY

How hacking WordPress and other open-source CMS' works

Hacking any system requires effort, whether it's a website or nuclear reactor facility. What makes targets attractive to hackers is often a mixture of prestige, accomplishment and financial motivation. When it comes to your open-source projects, the chances are you aren't working on anything as prestigious as Facebook or something that would have the same financial rewards as hacking HSBC bank, but you would be considered a much easier target and therefore attractive on the basis that your foundation code is open-source. This in itself means that website developers and designers who rely on open-source systems like WordPress, Joomla and Drupal need to be more cautious and aware of security issues that may have otherwise gone unnoticed in closed-source and bespoke systems.

Attacking an open-source system is much easier than many would think. Many professional hackers specialise in targeting open-source systems, with many of these specialists in targeting just a handful of the more popular systems. Once an open-source project reaches a critical mass of users, it becomes viable for the more criminally inclined hackers with a financial motivation to develop specialised methods and tools to target websites based on a specific set of open-source code. The diagram to the right shows how a hacker may develop their malicious code:

The solution to the security problem is to take pre-emptive steps to stop any potential vulnerability from succeeding. This article shows the steps you can take to make your open-source systems more secure – regardless of whether you are a WordPress tinkerer with no programming skills or an experienced programmer developing open-source plug-ins of your own.

NON-TECHNICAL SECURITY MEASURES
For the most part, the majority of security issues can be avoided or resolved with simple measures without the need for programming knowledge. With suggestions from Debs Williams, freelance Internet marketer at debbidoo (www. debbidoo.com) and a perfect example of how a non-developer can take measures to ensure security of WordPress websites, we look at what you can do to improve the security of your WordPress and other open-source systems without programming skills.

SELECTING A GOOD HOST
Whether you consider yourself to be an expert or are new to creating websites, having the support of your hosting company and their ability to get things right first time will avoid many security issues happening in the first place. Premium level support comes at a cost, so consider this carefully before opting for the cheapest web host you can find.

Williams tells how a previous host may have been a key contributing factor to a WordPress website that was repeatedly hacked. "I hadn't used the host before and haven't used them since. I tried to visit the website one day, and there was a browser message saying the website was dangerous and had been blocked. Although they identified and removed some dodgy files that were placed on the server, the same issue kept happening several times – what the cause was is unknown, but what I can say is that I've since hosted WordPress sites with at least three other hosts and have had no security issues

BENEFITS
Avoids basic server security vulnerabilities that can lead to bigger issues and ensures you have the support you need to react quickly should anything go wrong.

SELECTION OF POPULAR OPEN SOURCE SYSTEM(S)

↓

ANALYSIS OF OPEN SOURCE CODE

↓

IDENTIFY IF VULNERABLILITIES HAVE BEEN FOUND

Yes | No | No

IDENTIFY TARGETS USING SELECTED OPEN SOURCE CODE | **IDENTIFY AVAILABLE PLUG-INS WITH VULNERABLILITIES** | **DEVELOP MALICIOUS PLUG-IN TO OPEN VULNERABLILITIES**

DEVELOP AUTOMATED TOOLS THAT EXPLOIT VULNERABLILITIES → **ATTACK KNOWN VULNERABLE TARGETS**

ATTACK HTML FORMS | **INJECT CODE TO COMMON/KNOWN CODE SCRIPTS** | **ADD NEW CODE FILES**

SEND SPAM EMAIL	STEAL EMAILS AND SERVER DATA	STEAL DATABASE INFORMATION
RE-DIRECT WEBSITE USERS	STEAL INFORMATION FROM WEBSITE USERS	SNOOP ON WEBSITE USERS

ALTER DATABASE INFORMATION

ABOVE: The path a hacker will take in targeting an open-source system

"PEOPLE WHO WORK ON OPEN-SOURCE SYSTEMS NEED TO BE MORE CAUTIOUS"

SECURE YOUR PASSWORDS

GENERATE HASHED PASSWORDS FOR EXTRA LOGIN PROTECTION

A mistake that's often made is the use of easy to guess passwords. Whether it's for a database connection or access to your admin area, hackers can easily crack passwords by brute force in which they use a dictionary of the most commonly used passwords. This method of breaking into your database or admin area can be fully automated, meaning that a hacker needs only to spend a minimal amount of time to activate their attack and wait to see the results.

For your admin area account login(s), use passwords that combine numbers that are unique to you and can't be guessed, but at the same time are memorable to you. An example could be:

- Current Date + Pet Name + Last 3 Telephone digits = 230412Tigger389

For actual database connection accounts, you want to use something that's even more secure than the above – this is the database access your code will use when accessing your database, so memorability for frequent use isn't as important. For better security, use a hash generator to encrypt a chosen password, which will ensure that it can't be guessed. Try **www.md5hashgenerator.com** to create a hashed version of the password we have created above:

- Original Password: 230412Tigger389

- Hashed Password: 82b781733 08696c7141a972e4deb3641

To properly secure your password, an original password that is secure is still required to ensure hackers can't guess your hashed password by using a database of weak passwords to generate their MD5 equivalent.

whatsoever." Although the cause of Williams' issue could have been anything, the chances are it was down to an unsafe plug-in or theme used in the website - something that the right server settings can stop.

Another downside to cheaper web hosting is that they use shared servers with other websites. This is in order to reduce their individual hosting costs and can have some negative consequences for the security of your site. The majority of risks associated with shared hosting can be eliminated simply by ensuring you have the right setup, which is dependent on the technical skills and competency of your host's server administration team. Issues relating to shared hosting that you need to make sure are addressed by the chosen host include:

- **Ability of scripts to access hosting space outside of their own domain.**
  - This vulnerability would allow a malicious script or plug-in installed by another website owner using your server to affect your website, by simply finding your website location on the server and writing copies of its code to your hosting space - and even into your WordPress scripts.
  - The same vulnerability would also allow a malicious user of the server to scan and access your web hosting files. This could allow them to steal anything you are hosting, including documents and code files that have access to details of your database.

- **Access to your database.**
  - It could be a brute force attack or by using details stolen directly from your PHP scripts, but either way, other websites on your server can access your database if they are able to acquire the database username and password.

- **Email access.**
  - A server that hasn't been configured to stop users accessing areas they shouldn't also means that malicious users and scripts can access emails stored on the server, which includes yours. You could eliminate this risk by using a third-party email service provider such as Google, who offer a much better interface and more email storage.

- **Email sending.**
  - Another risk concerning email is that malicious scripts that have access to your site can send spam email. This could be as a result of code being installed onto your hosting space or another website on the server sending spam. Either way, because your website shares the same IP address, the chances are that your genuine emails will often get marked as spam by email providers such as Hotmail and Google, because the IP address of your server has been blacklisted. Before signing up to any shared hosting, this is a question you should put forward to your host.

NAMING YOUR TABLE INSTALLATIONS

WordPress has a useful feature as part of its installation process that allows you to define prefixes for the database table names it uses. This feature is in WordPress to allow your installations to share a database with other apps and bespoke code you have developed, but is also very useful to use from a security perspective. As described at the start, your web apps become better protected against malicious code the more they are altered. Simply changing the default database table prefix from 'wp_' to something like 'myBlog1701_' means that it will be harder for malicious code designed to attack your WordPress database installation to succeed; although keep in mind that this will only make it harder for the hacker and will not stop well-written malicious code from succeeding.

For those of you considering using this for existing WordPress installations, you can manually update your database table names from PHP MyAdmin, and then update your WordPress configuration file (wp-config.php) from your WordPress installation directory. Search for the following in wp-config.php:

```
001 $table_prefix = 'wp_';
```

... and replace with:

```
001 $table_prefix = '[Your prefix here]_';
```

Other open-source systems that have been coded to a good enough standard will have similar settings –

BENEFITS
Makes it harder for malicious code to tamper with your WordPress database content.

```
/**
 * WordPress Database Table prefix.
 *
 * You can have multiple installations in one database if you give each a unique
 * prefix. Only numbers, letters, and underscores please!
 */
$table_prefix = 'wp_';
```

ABOVE: The default WordPress database table prefix is wp_. Changing the prefix to a custom option makes it harder to hack

whether it's like WordPress, in which table prefixes can be defined by accessing the backend system settings, or where the system itself can define fully bespoke table names for everything it needs.

CHECK YOUR THEMES AND PLUG-INS

It's not just plug-ins designed for malicious purposes that pose a threat to your website. Plug-ins designed to be genuinely useful are sometimes coded in a way that makes it easy for hackers to abuse and access your website in ways that were unintended.

One example of how genuine plug-ins can accidentally introduce security issues to your website is TimThumb, a script that was developed for the WordPress theme Mimbo Pro to allow for automated image cropping and resizing. TimThumb was found to be highly useful for users of WordPress and was subsequently adopted for inclusion in many other WordPress themes as well as other open-source systems. The problem with TimThumb was that it originally didn't validate the types of files being uploaded through it, and so allowed for PHP and other scripts to be loaded. This meant:

- There was a huge vulnerability in WordPress websites and open-source systems that were using themes that included TimThumb.

- Many users with themes using TimThumb were not aware how their website was affected, and this has resulted in reported claims of 1.2 million websites being affected.

IT'S NOT JUST PLUG-INS DESIGNED FOR MALICIOUS PURPOSES THAT POSE A THREAT TO YOUR WEBSITE

- Hackers would be able to identify vulnerable websites simply by searching for WordPress websites using themes that were known to use the TimThumb script.

- The standard code structure of WordPress meant that hackers could produce automated 'bots' that scour the Internet looking for vulnerable websites to attack.

The result of the vulnerability meant that many website owners were caught unaware of the vulnerability, and had their website injected with anything from phishing code designed to steal information such as user login and credit card details, through to addition and injection of server-side code designed to hijack the server and send spam emails – or worse.

Williams tells how she minimises the security risk to her WordPress websites by being selective with plug-ins: "I'm actually quite careful with plug-ins, only going for those with the best reviews if possible. But nothing is foolproof, especially when things are open-source and anybody can muck about with them!"

Key actions to take when using any plug-in or theme with your open-source system include:

- **Check the reviews and scores given to all themes and plug-ins you are considering using.**
  - It's very easy to do this for plug-ins downloaded from **wordpress.org** - check the right hand column on the download page of your desired plug-in to see the number of reviews and average rating, keeping in mind the more ratings a plug-in has received the more trusted the rating average will be.

- **Make sure you download your plug-ins from reputable sources.**
  - Your first port of call for WordPress plug-ins should always be **www.WordPress.org/ extend/plugins.**

- **Use Google to search for what other WordPress users are saying about the plug-ins you are considering using.**
  - Do specific searches relating to the plug-in and security vulnerabilities such as 'TimThumb plug-in exploit'.

ENCODE YOUR CODE

By using one of the PHP encoders such as IonCube (**www.ioncube.com**), you are able to convert your code from PHP and HTML files to compiled executable files. The main advantage of this for security is that your website is no longer relying on PHP files that can be altered – the executable runs in exactly the same way, but is compiled as machine language, so attempts to add extra code to existing scripts by malicious plug-ins will fail. Obviously you would need to keep a backup on your own computer of your original PHP code, because compiled code will not be updatable if you need to make future changes.

CAUTION. Keep in mind that encoding your code will not protect you from plug-ins and other types of scripts you have installed that are designed for devious activities, so although a powerful asset in your security, encoding your code is only one part of the puzzle.

" AS WORDPRESS IS SUCH A POPULAR BLOGGING PLATFORM, IT HAS BECOME A TARGET FOR HACKERS TO EXPLOIT "

- Continue this on a regular basis for every theme and plug-in you use after you have completed your WordPress website, to ensure your website isn't at risk from being affected by newly identified vulnerabilities.

- **Ensure that your websites are using the latest versions of themes and plug-ins to avoid being caught out by vulnerabilities identified after you have created your website.**

  - If using WordPress, you can check for regular backend updates from your WordPress admin area, whereas one of many handy plug-ins can also be installed to send you an email notification on the same day that new updates are released.

  - Other open-source systems have similar update notification features to WordPress - if yours doesn't, simply check manually at least once a month via Google for each plug-in you are using.

- **Avoid going trigger-happy with plug-ins.**

  - The more plug-ins you use, the more chance there is of something going wrong and the more time you have to spend ensuring your websites are using the latest version.

Exploits can happen to any plug-in, and just because it hasn't yet doesn't mean it won't. A knee-jerk reaction to using TimThumb would be to replace it. However, there is no guarantee that your chosen script doesn't suffer equally. Now the particular vulnerability in the TimThumb example has been patched, it would arguably be safer to use the latest version of TimThumb over an equivalent unknown plug-in because at least it can be confirmed that the issue has been secured.

ADMIN AREA AND KEEPING UPDATED

Having your admin area URL and standard admin login name kept as the default is looking for trouble. By renaming the 'wp-admin' folder and changing or deleting the default 'admin' username, you make your WordPress login area more secure.

Nick Stockbridge, director of Transmedia (www.transmedia.co.uk) a WordPress training provider, tells us how even basic measures can be used to secure WordPress websites:

"As WordPress is such a popular blogging platform and simple CMS, it has become a target for hackers to exploit vulnerabilities in WordPress installations that have older versions or poor security. Most delegates on our courses are concerned with security and are interested in best practice for securing WordPress. Basic measures include keeping your WordPress installation up to date, installing into a location other than the default one and using secure passwords and usernames."

ADVANCED TECHNICAL MEASURES

ADJUSTING YOUR SERVER SETTINGS

Whether it's through third-party plug-ins, or code developed by yourself or your team, it's not always possible to ensure that all code used in your WordPress installation can be trusted to be a hundred per cent secure. A first measure of defence is to make your hosting stop any undesired activities regardless of what is in the code. This means that even if you accidentally install a malicious plug-in that is designed to hijack your website, the attack will be stopped immediately through the restrictions placed in your server settings.

MODIFYING PHP BEHAVIOUR FOR FILE OPERATIONS

We've already looked at how we can restrict scripts from doing things we don't want them to, but as mentioned in the original web security article in **Web Designer** #187,

SET FILE RESTRICTIONS — .HTACCESS

IF YOU DON'T WANT TO GIVE HACKERS OR YOUR USERS ACCESS TO ABSOLUTELY EVERYTHING IN THE BACKEND OF YOUR SITE, PROTECT THE FILES YOU WANT TO KEEP HIDDEN

The nature of open-source means hackers will often know exactly how your code works, and what they need to find to make changes or find settings to open further vulnerabilities. You can secure your system against malicious plug-ins and scripts that attempt to change your installation settings by setting file restrictions in your .htaccess file. Specific files and directories you may want to protect include:

- **The 'wp-config.php' settings file.**

  - Avoid the risk of accidentally making settings viewable in your wp-config.php file settings by using .htaccess to block all access to it via the web URL.

  - Code:
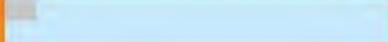
- **The wp-content directory**

- Themes, plug-ins and user uploads are stored in this directory, so we want to make sure users who don't have admin-level access to the site can't access anything they shouldn't – including hackers who have been able to upload malicious scripts. WordPress doesn't access any of its PHP via HTTP, so we can secure this directory by only allowing access to file types such as images and JavaScript code that themes will require.

- Code:
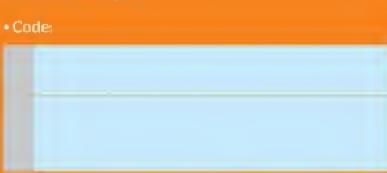
- Note - there may be a few exceptions for PHP files that you want to allow users of your backend access to via HTTP, such as PHP files in themes used for AJAX. In this scenario, you can define the exceptions you want to make in the .htaccess file like the following:

You may also want to disable people from using their web browser to access file lists in directories that don't have an index file. You can protect against this by adding the following to your .htaccess file:
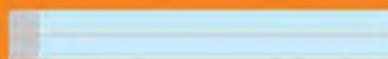
it's always better to have something to fall back upon should something fail. If your hosting allows it, you can create or edit an existing settings file called 'php. ini' that controls how PHP works. The main setting you want to look at is:

```
001 open_basedir
```

- When set, this limits PHP to operating on files in specific directories. This is very useful for stopping scripts from copying themselves throughout your WordPress installation and injecting malicious code into themes and other files your website uses. Update this in your php. ini file by looking for 'open_basedir =' - if there is a semicolon before it, take this out. Replace this line with something similar following, where the actual path reflects the true path to your WordPress uploads folder:

```
001 open_basedir = '/home/www/public_html/
wp-  content/uploads/'
```

- **CAUTION**: Modifying this setting will stop file functions outside of the uploads directory from working, so you have to specify other directories that you wish to allow file operations within the open_basedir setting. You do this by separating each directory with a colon, hence if you also wanted to allow Plug-inA to be editable, open_ basedir would look like:

```
001 open_basedir = '/home/www/public_html/
wp-  content/uploads/:/home/www/public_html/
wp-  content/Plug-inA/'
```

- **CAUTION**: Although open_basedir is very useful for limiting PHP scripts to what they can do, it is only a setting for PHP, so it will not limit scripting files of other languages such as Python.

PLUG-IN AND THEME DEVELOPMENT

The ability to develop your own functionality is what makes open-source systems like WordPress so flexible. However, it's almost as important to keep an eye on plug-ins you develop yourself as it is for those created by other people.

SERVER SIDE VS CLIENT SIDE

Information kept on your server is more secure than anything you may expose as hidden information within HTML forms or URL query strings. Information you may not want to reveal but are required by processing scripts when the user submits information, is tempting to place within hidden fields of an HTML form. This is a basic way to do the job, but provides big security risks that allow hackers to tamper with data in your hidden fields and also exposes details about how your plug-in works.

Instead of relying on providing system sensitive information via HTML forms, a better strategy is to keep such information on the server, providing the advantage of ensuring it can't be tampered with by the end user and also avoiding revelations of how your code works behind the scenes. This style of processing can be achieved in a number of ways – the most basic is to use server sessions, which can be activated by using PHP's session_start() function and $_SESSION values:

Server sessions are a good way to keep data on the server that is specific to the current user, but sometimes you may need a

ABOVE: When creating a WordPress plug-in make sure it is as secure as possible

CLIENT BROWSER
(Session ID)

SERVER

PROCESSING SCRIPT

SESSION

Details...	Details...	Details...	Details...
Details...	Details...	Details...	Details...
Details...	Details...	Details...	Details...

ABOVE: Using session data to avoid revealing system-sensitive information via HTML or cookies

more robust solution to access data that is relevant to all users. One example would be information for product processing for some type of eCommerce plug-in. By creating a table for data profiles, you can store your data as a JSON string using PHP's json_encode() function and use a hidden field in the form to store the record ID to find the processing information. This allows you to process the same information, but by only revealing the data profile ID.

VERIFICATION WITH TOKENS

When you are processing any data, especially critical data such as payment confirmations, you need to ensure that the information provided is genuine. Tokens are a verification code generated by your script that are used to verify that returned information is what it should be. Make your system more secure by generating tokens to validate authenticity of returned important data. Combining this with server-side data profiles will

ensure that hackers can't fool your system into processing the wrong data profile.

Creating a token can be achieved by producing an MD5 hash. This is done by combining information you want to verify with information known only by the server – such as the user login time and secret password. The following code shows how this could be done with PHP:

```
001  $token = md5($data['id'] +      $_
       SESSION['loginTime'] +  $systemPassword);
```

VERIFY FILE TYPES

When accepting file uploads with your code, you should always check to see what type of files are being uploaded. The aforementioned TimThumb script was designed to work with image uploads, but a failure to check the types of files being uploaded opened a vulnerability that allowed PHP scripts to be sent and run on the server. At first glance, the obvious solution to the problem would be to put a ban on PHP files being uploaded through the script, but this still leaves huge holes for other types of scripting and executable file types such as Python that the server may support. Instead of relying on creating a large list of file types to ban, the hundred per cent secure solution is to validate all file types against what you will accept, leaving no scope for your code to accept anything threatening.

EVAL() IS EVIL()

Programmers are sometimes faced with scenarios that can benefit from being able to embed PHP code within

content, such as creating calculations and performing server functions from content stored within a database. Those who are not aware of the security implications of this would see PHP's eval() function as an opportunity to open many opportunities for dynamic data processing sent from the database. The problem with this is that if the database is hacked, the nature of open-source plug-ins will also mean that the hacker will know (or be able to guess) which parts of the database are used to store PHP code that gets executed; from this, all they would need to do is update or insert a record that has PHP code to do anything they want, including:

- Find your installation settings and email it to themselves.
- Write new scripts on the server that open vulnerabilities for the hacker and their automated tools to attack.
- Inject PHP scripts with malicious phishing code.
- Stealing content files via email.

The solution to this problem is not to use eval() in the first place. Instead, use a more sophisticated approach, one that allows your content to have triggers that call processing scripts and generate results to be placed into the content, giving you full control of what code is being processed. These triggers would contain the information your content needs for dynamic processing information and so would still provide you with the abilities your code needs to solve the problem at hand.

FILE PERMISSIONS
THE MUST-HAVE SETTINGS IF YOU'VE GONE DIY WITH WORDPRESS

If you have installed WordPress yourself, you should be familiar with how FTP programs like FileZilla and Cyberduck work. You can use these programs to set file permission codes on all of your files that will limit how they can be accessed by plug-ins and scripts in your website. The following are suggested file permissions you should use:

- File directories should be set to 755, allowing for files to be read and executed, but only you as the owner can write to it.
- Regular files should be set to 644 to stop them from being tampered with scripts within your installation.
- Files you want editable from the WordPress theme editor should be set to 666 to allow WordPress PHP code to edit them – although keep this to a minimum because plug-ins can also edit these files.

" ALWAYS CHECK TO SEE WHAT TYPE OF FILES ARE BEING UPLOADED "
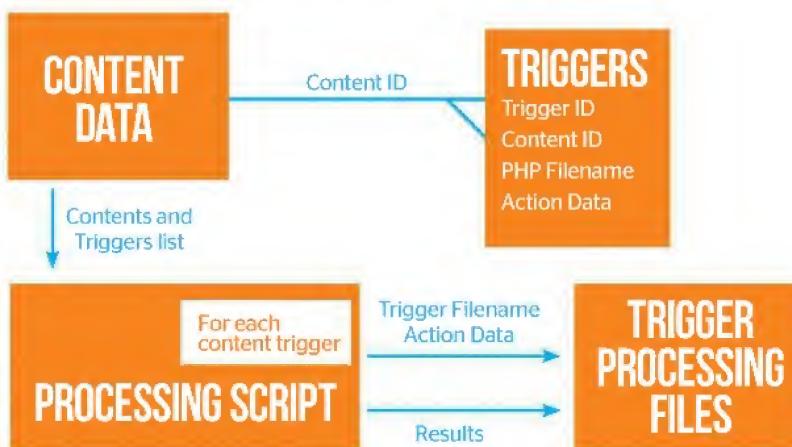
ABOVE: Database content with triggers is much more secure than embedding PHP code in a database

RESPONSIVE DESIGN and the NEW iPAD

CHRIS WRIGHT DISCUSSES THE CHALLENGES DESIGNERS AND DEVELOPERS NOW FACE WITH THE RISE OF THE NEW iPAD

Apple launched the new iPad back in March. It sold more than 3 million units in its first three days, and despite some mild controversy over heating issues and what is or isn't a 4G data connection, it has been met with almost universal acclaim. By now most of you will be familiar with its new features - the Retina display, the quad-core graphics processor, and the new cameras being among the most popular. The Retina display probably stands out as the most significant upgrade from the previous model, and certainly the thing new users will notice first. The increase in resolution and brightness really is a marked improvement from the iPad 2. It isn't quite the same as the iPhone 4 Retina display, but it is as close as it needs to be and certainly sets the new iPad head and shoulders above its peers.

THE RETINA DISPLAY

The Retina display also poses some interesting challenges for mobile web development. It certainly gives web developers some new aspects to think about when putting together sites. Users of the new iPad now have at their disposal four times more pixels than those using an iPad 2, and a million more than found on an HDTV. Just as app developers have started to upgrade their products to include high-resolution images, website developers need to start thinking about how they can use the capabilities of this new screen in their designs. Websites with heavily optimised, or poor-resolution, images will be instantly

IPAD 2   THE NEW IPAD

shamed when viewed on the new iPad. What is acceptable on even modern desktop screens isn't always going to cut it now - especially for web designers who want their sites to shine no matter the device being used to view them.

Upgrading images and graphics used in a web design isn't in itself difficult – websites have had to move with the times as screen resolutions have increased over the years, but it does open up the wider issue of 'responsive design'. Such is the diversity of devices that a site can now be viewed on, a single design to fit them all doesn't really cut it. The new iPad (as opposed to the iPad 1 or 2) with its new screen is now yet another device to consider with its own unique requirements.

This divergence of devices isn't a recent development and was at least partly foreseen by the World Wide Web Consortium. 'Media types', introduced in CSS 2.1, were designed to help with just this issue, and differentiated between things like 'print', 'screen' and 'TV'. Specific CSS styles could then be crafted that were best suited to a given device. In this way a website design can automatically respond to the specific device being used to access the site – hence, responsive, or adaptive, design. They had limited use though in practical environments. While 'print stylesheets' have proved very popular with designers and users alike, the 'web revolution' on TV sets hasn't really happened as some thought it might. Instead, tablets and phones have grown vastly in popularity when users aren't sitting at a traditional desktop.

Something else was needed to augment media types, and it arrived in CSS3. Media types were now extended with the much more useful 'media queries'. This extension to the standard provided queries to detect specific screen sizes, device sizes, or even the current screen orientation; this proved a much more flexible solution to responsive design. Now we can happily target an iPhone, an iPad or even an iPad set to landscape mode. CSS is actually targeting specific screen sizes, rather than a particular model of device. However, the new iPad makes things a little more difficult...

Unfortunately the device size CSS queries (specifically the min-device-width and max-device-width queries) cannot differentiate between an iPad 2 and the most

recent (or an original first-generation iPad and the new iPad). That is because they all report the same resolution of 1,024 x 768, even though the new iPad is 2,048 x 1,536. This is because the screen sizes are actually the same size no matter the iPad model. The iPhone 4 suffers with the same issue when trying to differentiate it from all earlier iPhones.

There is a solution though, and it requires an additional media query – WebKit-min-device-pixel-ratio. A value of 2 indicates a Retina display (on an iPad or iPhone), while a value of 1 indicates a normal screen. Combining this query with device-width will allow your CSS to pick out a new iPad, and you can then target specific styles accordingly. It goes without saying that all browsers do not support this property, only WebKit ones. Obviously it works with Safari on the iPad.

GROWING FILE SIZES

The technical ability to detect and cater for the new iPad is all well and good, but there is a bandwidth aspect to consider as well when looking at a website design for the the device. Again mobile apps have already given us a glimpse of how the future will look. Apple's latest iPad apps have swelled in size, in part as a result of accommodating suitable Retina display graphics. Keynote has increased from 115MB to 327MB, and iMovie has increased from a modest 70MB to a whopping 404MB. Higher-resolution images for websites on the new iPad may not necessarily result in size increases of quite the same magnitude, but the numbers are certainly going to go up, and it is something designers need to be aware of.

iPad users connecting to the outside world with Wi-Fi may not be concerned as their data limits are generally not an issue, but mobile data plans are sure to take a hit. It isn't exactly the same situation as back in the early days of the web – squeezing heavily compressed JPEGs down a 28.8 Kbps modem line – but websites for the new iPad are going to be bigger than they otherwise would have been.

The responsive design techniques described above can ensure that only users of the new iPad get to see most aspects of your high-resolution design. But if Apple's website is anything to go by these same users will have to download two sets of images – both the normal-resolution images intended for the majority and the high-resolution

versions intended just for them. This could potentially be a serious issue for users with data limits.

Apple has updated its website with JavaScript that replaces images with high-resolution versions, once a new iPad is detected. However, this happens after the regular versions have already been downloaded. So users of the new iPad take a double hit – twice the number of images to download and larger file sizes for the high-res images.

No one is saying that every image a new iPad user sees on your website has to be high resolution and hand tailored to suit their device. A much more sensible approach is to ensure that all images are up to a certain standard, and then selectively upgrade images that have the most impact on the user experience. As with the vast majority of design decisions a balance between the aesthetic and the technical needs to be found.

TOUCHING THE WEB

It is not just the Retina display that has changed how web developers approach the 'iPad-enabled web'. The touchscreen, now such a common part of phones and tablets, is also a consideration. While the new iPad didn't bring any changes to the basics of 'touch', its popularity and impressive sales figures mean more and more developers are thinking about touch-enabled website design. Apple CEO, Tim Cook, recently had this to say on the runaway success of the iPad:

"It's amazing how the product has captured so many people – you're using one, my mother's using one, my seven-year-old nephew uses one. I to go the gym in the morning and the trainer's using one. At Starbucks, I look around – everybody has one, reading their newspaper or magazine or whatever. In education, it's being used; in the enterprise, it's being used in big numbers. From my point of view, it's the fastest adoption across a wide range that I've ever seen before."

SO WHAT DOES ALL THIS ACTUALLY MEAN FOR WEB DESIGNERS?

Well, firstly there are a few obvious things to consider. People will be using their fingers to move around your site, instead of a mouse. This has implications for your design, as users will basically be much less accurate when 'clicking'.

> ## " IPAD APPS HAVE SWELLED IN SIZE, IN PART AS A RESULT OF ACCOMMODATING SUITABLE RETINA DISPLAY GRAPHICS "

SHARED DEVICES

Jakob Nielsen, the usability guru, raised an interesting point last year about the shared nature of iPads and its relevance to website and app design:

" TABLETS MIGHT BECOME TRULY PERSONAL DEVICES IN THE FUTURE, BUT FOR NOW, YOU SHOULD ASSUME YOU'RE DESIGNING FOR A MULTI-USER DEVICE "

"Except for people who lived alone, our study participants uniformly reported sharing their iPads with other family members. The iPad's shared nature contrasts with the much more personal nature of mobile phones, which are typically owned and used by single individuals. Obviously, tablets might become truly personal devices in the future as competition drives down the prices. But for now, you should assume that you're designing for a multi-user device "
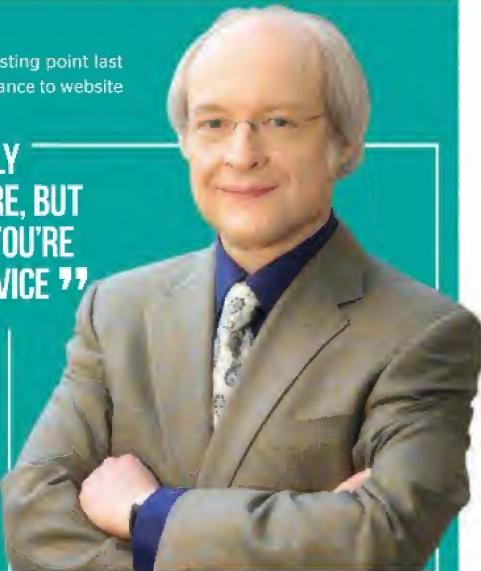
This obviously has implications for apps, where a user may be required to be signed in to access specific functionality. But it equally applies to websites. Designers should be aware that they can't always rely on the same user accessing their site, even if cookies would technically allow them to do so.

Fingers are generally fatter than a cursor. Large buttons, big links, white space, these are all things that help to make a good touch-enabled website. Squashed-up links, cramped information, or multiple overlapping elements – these things are less useful.

More subtly, users will cover the screen when reaching for elements on the sides of your design. A left-aligned navigation – a traditional web standard – might not be so suitable for the majority of right-handed users coming to your site. CSS media queries can help here, especially the queries that tell you if a tablet is in landscape or portrait mode. Landscape will give a layout much more space to work with, for example. That isn't to say you need to build different versions of your site for every conceivable combination of user and device. But subtle changes to your master design can accommodate many of these factors, once you are aware of them.

A more significant technical issue is the widespread use of the CSS hover state. Arguably, hover states should not be used to indicate a link in any design, but they simply aren't an option on touch devices as they aren't available. Similarly, hovering on a navigation to display a dropdown isn't going to work. Better to implement a more static approach to submenus, or buttons to specifically expand/contract navigation components. The accessibility of your site will also benefit from changes in these areas.

CONCLUSIONS

The new iPad gives web developers plenty of new features to play with and to incorporate into their websites. It also offers a number of subtler points to consider. The new iPad doesn't differ from previous models in that it also still restricts designers in some significant ways, most notably in the absence of Flash support. This is still absent as it will always be on all Apple mobile devices.

But this doesn't detract from the wonderful opportunities the new iPad does offer. Web designers have always had to consider new screens, browsers and devices. The new iPad is but the latest to be embraced.

Dynamic content animations

With a modern browser, you no longer need JavaScript to create interactive, fluid content transitions, CSS3 will do

tools|tech|trends Graphics editors (Photoshop, Illustrator or your preferred editor), HTML editor (we used Dreamweaver, but any will do), HTML, CSS **expert** Sam Hampton-Smith

On the CD
• HTML and CSS files for the project

Increasingly, visual effects can be rendered directly without Flash or JavaScript, and sometimes scripts can be eliminated altogether.

Take the example of a single page with many pieces of content. To animate between these in the past would have involved using a JavaScript framework such as jQuery to animate the position of different elements. Today, with a little bit of CSS magic we can render a sophisticated user interaction with styles alone.

Taking full advantage CSS3's new transition properties, along with the transform functionality, we're going to build a page that allows the user to navigate through six different content panels. We'll arrange our panels around a stage, and animate the position of the stage to move the correct panel into view when called by the user.

The effect will render properly in WebKit browsers, Firefox and IE10. In IE9 the transitions wont work, but we'll still get a functional page.

01 Basic HTML

We'll start with a basic HTML page that has six <div>s inside a holding <div>. Rather than animate each individual panel, we'll arrange the panels inside the holding <div>, and animate this to provide the movement required. Create a basic, empty stylesheet and link it to your HTML document within the <head> section. The full code for this step is on the disc.

02 Basic styles

We need to create the basic CSS styles to set up the core characteristics of the page. We'll start by defining the 'window' through which we'll be able to see the content within the holding <div>. Add the size of the panels and arrange everything so that it aligns centrally on the page.

```
001   body {
002
003   }
004
005   #container {
006
007   }
008
009   #viewer {
010     position:relative;
011     width:    700px;
012     height:   350px;
013     overflow:hidden;
014     margin:   auto;
015     border:   10px solid black;
016   }
```

```
017
018   #holdall {
019     width:    0px;
020     height:   0px;
021     position:absolute;
022     background:       white;
023   }
024
025   .panel {
026     position:absolute;
027     width:    680px;
028     height:   330px;
029     padding:  10px;
```

<Above>
• The completed herringbone pattern is now put in place, so we need to implement our animation using CSS3 transitions

```
030     overflow:hidden;
031   }
```

03 Position the panels

Now we've got the basic styles in place, we can create our panel layout. To make it easier, we are going to give each panel a background colour. Experiment with the position of the panels to get an arrangement you like; but remember, arbitrary rotations will make it tricky to align the holding <div> later. We've opted for a simple herringbone layout. The full code for this step is on the disc.

04 Add a target

In order to animate to a particular panel, we'll need to be able to identify when it's being targeted. The problem is that we're using the holding <div> to provide the positioning, and it contains the panels. Instead, we'll add extra <div>s to refer to all the panels. Change your HTML to look like the code below:

```
001   <!DOCTYPE HTML>
002   <html>
003     <head>
004       <meta http-equiv="Content-Type"
content="text/html; charset=UTF-8">
005       <title>CSS3 Target Selectors</title>
006       <link rel="stylesheet" type="text/css"
href="styles/screen.css" />
007     </head>
008     <body>
009       <div id="container">
010         <div id="viewer">
```
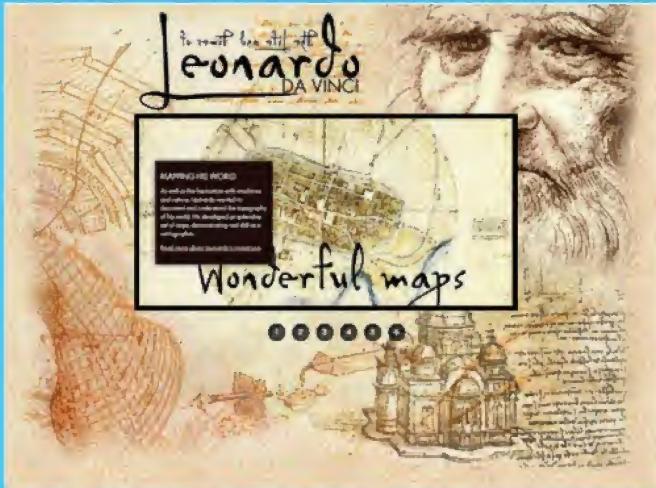
Browser support

All current-release browsers will happily work with our code, and IE9 will render correctly, albeit without the fancy transitions. For older browsers, consider using conditional stylesheets to simplify your design.

```
011          <!-- Target divs -->
012          <div id="loadpanel1">
013          <div id="loadpanel2">
014          <div id="loadpanel3">
015          <div id="loadpanel4">
016          <div id="loadpanel5">
017          <div id="loadpanel6">
018          <!-- Hold All -->;
019          <div id="holdall">
020              <div class="panel"
     id="panel1">Panel1</div>
021              <div class="panel"
     id="panel2">Panel2</div>
022              <div class="panel"
     id="panel3">Panel3</div>
023              <div class="panel"
     id="panel4">Panel4</div>
024              <div class="panel"
     id="panel5">Panel5</div>
025              <div class="panel"
     id="panel6">Panel6</div>
026          </div>
027          <!-- End Hold All -->
028          </div>
029          </div>
030          </div>
031          </div>
032          </div>
033          </div>
034  }
035          <!-- End Target divs -->
036      </div>
037          </div>
038      </body>
```

05 Test targeting

We'll use the syntax #loadpanelX:target #holdall {} to provide the positioning styles, so that each panel in turn is visible in the viewer aperture. First, add the CSS code below to target the second panel, then load the page in your browser and add #loadpanel2 after the URL in the address bar.

```
001  #loadpanel2:target #holdall {
002    -webkit-transform:  translateY(-350px);
003    -moz-transform:  translateY(-350px);
004    -ms-transform:  translateY(-350px);
005  }
```

06 More Positioning

Now we've got the principle, we need to position the holding <div> for the remainder of the panels, using the :target syntax in each case so that if the page calls the #loadpanel4 <div>, the holding <div> is positioned to show panel 4 and so on.

```
001  #loadpanel1:target #holdall {
002    -webkit-transform: translateY(0px);
003    -moz-transform: translateY(0px);
004    -ms-transform: translateY(0px);
005  }
006  #loadpanel2:target #holdall {
007    -webkit-transform:  translateY(-
350px);
008    -moz-transform:  translateY(-350px);
009    -ms-transform:  translateY(-350px);
010  }
011  #loadpanel3:target #holdall {
012    -webkit-transform:  translateY(1050px)
translateX(0px) rotate(-90deg);
013    -moz-transform:  translateY(1050px)
translateX(0px)  rotate(-  90deg);
014    -ms-transform:  translateY(1050px)
translateX(0px) rotate(-90deg);
015  }
016  #loadpanel4:target #holdall {
017    -webkit-transform:  translateY(-
700px);
018    -moz-transform:  translateY(-700px);
019    -ms-transform:  translateY(-700px);
020  }
021  #loadpanel5:target #holdall {
022    -webkit-transform:  translateY(1050px)
translateX(-700px) rotate(-90deg);
023    -moz-transform:  translateY(1050px)
translateX(-700px) rotate(-90deg);
024    -ms-transform:  translateY(1050px)
translateX(-700px) rotate(-90deg);
025  }
```

Dynamic content animations

<Left>
• We break down each of the visual elements to make the page layout flexible and ensure it renders quickly in the browser

viewer window, the navigation to allow jumping between panels, and decorative elements around the outside. We've gone for a Leonardo da Vinci approach.

12 Break down the elements
We've started off by creating a few different background images that will overlay each other nicely, blending together to create the effect we defined in our mockup. Make sure that any transparency is rendered as transparent by saving the file(s) as transparent PNGs.

```
001 body {
002   position:relative;
003   margin:    0;
004   padding: 0;
005   background:white url(pagebg.jpg) repeat
top left;
006   font-size: 62.5%;
007   font-family: "Futura Std", Helvetica,
Arial, sans-serif;
008 }
009
010 #container {
011   position:relative;
012   padding-top: 20px;
013   width:    100%;
014   height:   100%;
015   min-height:        900px;
016   background: transparent url(containerbg.
png) no-repeat center top;
017 }
```

13 Add any additional markup
Now's the time to add any additional markup required to make your design work. In our case we're adding information and images inside our panels, and we're also including a main heading above the viewer. You can find our completed HTML on the coverdisc if you'd like to follow along with our design.

14 Panel backgrounds
We're now going to work through each panel in turn, creating a background image to replace the brightly coloured HTML background we put in place earlier on. Again, this is down to your own taste and preference, but we've continued along the da Vinci theme to create a series of panel backgrounds that work with our overall design.

15 Add some extra style
We'll need to add some additional styles to ensure our panel contents are displayed beautifully. We've added a basic <div> inside each panel that will hold the content, and set it to be almost black, with white text inside. This will offset against the paper-style background nicely.

```
001 .info {
002   position:absolute;
003   top:   80px;
```
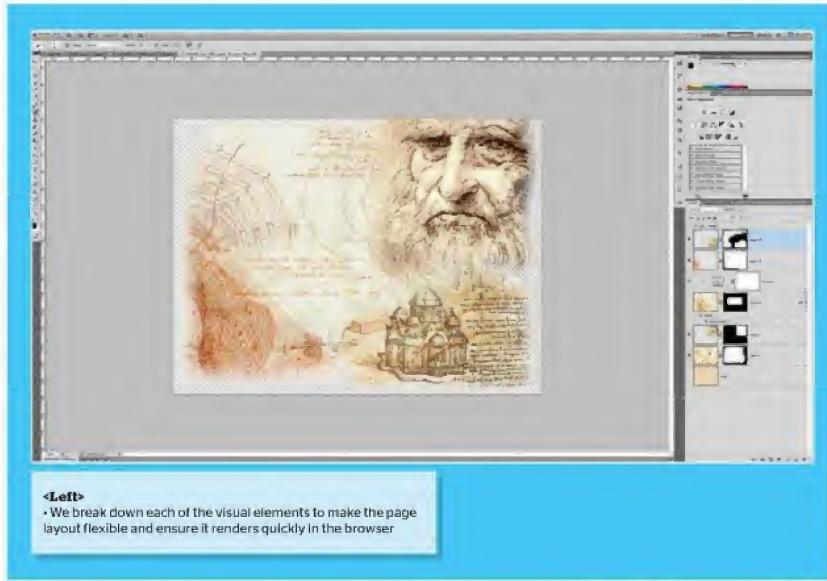
```
026 #loadpanel6:target #holdall {
027   -webkit-transform:  translateY(-
1050px);
028   -moz-transform:  translateY(-1050px);
029   -ms-transform:  translateY(-1050px);
030 }
```

07 A word of warning
You'll have noticed when we set up the #holdall <div> we set the width and height to both be zero. This is okay because HTML elements will expand to allow the contents to be seen, even if the parent element isn't big enough. If we were to change the width and height of the #holdall <div> at this point, our transforms would cease working as the point of transformation would change – so leave the width and height at zero!

08 Add some links
We need to test that our positioning works properly, and we can do this quickly by adding a set of links at the bottom of our page. Each link will point to a #loadpanelX <div>, providing the targeting we require.

```
001 <div id="nav">
002   <ul>
003     <li><a href="#loadpanel1">1</a></li>
004     <li><a href="#loadpanel2">1</a></li>
005     <li><a href="#loadpanel3">1</a></li>
006     <li><a href="#loadpanel4">1</a></li>
007     <li><a href="#loadpanel5">1</a></li>
008     <li><a href="#loadpanel6">1</a></li>
009   <ul>
010 </div>
```

09 Animate!
If you test now, you should see that clicking on individual links will set the holding <div> such that the appropriate panel is shown in the viewer window, but to really see the effect we'll need to add a transition to the #holdall <div>, so that rather than jumping into place, it smoothly shifts into position. Add the CSS shown below to do just that.

```
001 #holdall {
002   width:    0px;
003   height:   0px;
004   position:absolute;
005   background:white;
006   -webkit-transition: all 3s ease-out;
007   -moz-transition: all 3s ease-out;
008   -ms-transition: all 3s ease-out;
009 }
```

10 Test and test again
Before we go any further, it's pretty important to check and test your page in every browser you can think of, making sure that the positioning and transitions work as anticipated. You should find that IE10 works, although IE9 won't transition. It might be a good idea to add a conditional stylesheet for use with older versions of Internet Explorer.

11 Designing the page
Now we've got a functional animation system in place, we can start to design our page. Open up your favourite graphics editor and create a mockup of the design you'd like to implement. Consider the central

```
004    left:      30px;
005    width:     200px;
006    padding: 10px;
007    background:#1c0000;
008    color:     white;
009    box-shadow: 0px 0px 10px #333;
010 }
011
012 .info h2 {
013    text-transform:uppercase;
014    font-size:  1.4em;
015    font-weight:normal;
016 }
017
018 .info p {
019    font-size:  1.1em;
020    line-height:1.5em;
021 }
```

Understanding the :target workaround concept

In this tutorial we've used the :target pseudo-class in order to react to user input. The :target class is added to any element that has an ID and is called using an internal anchor link, such as #panel1. Note, however, that in order to animate the parent <div> that contains our panels to the correct position, we need a way of knowing both when the user clicks on an internal link, and which link they've clicked on.

For this reason, we've added six redundant, nested <div>s around our parent <div>, each with a unique ID that relates to an individual panel. When we set up our internal links, rather than point to the individual panels, we instead point to the redundant <div>s, allowing us to create a CSS rule that looks for the parent <div> existing inside a targeted <div>, and animating the whole container into the correct position.

```
022
023 .info p a {
024    color:     #f7eed7;
025 }
```

16 Style the nav

We need to create the styles that will allow our navigation to align to our original mockup. We're going to use a simple technique to create perfect circles: first set the width and height to match each other, then use a border-radius of exactly half that value to create beautiful curved lines!

```
001 #nav {
002    position:relative;
003    padding: 10px;
004    width:    700px;
005    margin:    auto;
006    text-align:center;
007 }
008
009 #nav ul li {
010    width:     30px;
011    height:    30px;
012    margin:    5px;
013    display: inline-block;
014    line-height:30px;
015    box-shadow: inset    2px 2px 5px #000;
016    background: rgba(0,0,0,0.7);
017    border-radius:15px;
018    border:     1px solid #000;
019 }
020
021 #nav ul li a {
022    font-size: 1.3em;
023    text-decoration:none;
024    font-weight: bold;
025    color:      white;
026    display:    block;
027 }
```

17 Test and review

There are still a few enhancements we can put in place, but before we get to those it's essential to test what we've done so far thoroughly as we make iterative changes to our design. You need to ensure that your design continues to work after each major change (such as styling the navigation).

Extra animations

Individual elements on each slide can be animated by using the same :target method we've employed in main slide panels. We've animated the Mona Lisa using this approach on slide 2!

18 Individual animations

One of the best things about CSS3 is that we can assign individual styles to elements within the markup, and target them separately. This is good news because it means we can choose to add individual animations to our different elements, adding further interest and interactivity to the page.

19 Animate the image

Inside panel 2 we've got an image of the Mona Lisa, which is a bit too big for the panel. By default it sits behind the text shown in the info <div>, but it would be nice to have the painting animate into view when we move in to view panel 2. Start by ensuring your image has a class we can use to target it.

```
001 <img class="slidefromright" src="images/
monalisa.png" alt="The Mona Lisa" />
```

20 Use :target

The next thing we need to do is to tell the stylesheet that we only want to initiate the animation when the second panel is actively targeted. Add the code below to set this up. We've gone for a quick and easy animation here, but you could have added a keyframed animation if you wanted to.

```
001    .slidefromright {
002      position:absolute;
003      top:    0;
004      right:  0;
005      margin-right:-700px;
006      -webkit-transition: all 4s ease-out;
007      -moz-transition: all 4s ease-out;
008      -ms-transition: all 4s ease-out;
009    }
010
011    #loadpanel2:target .slidefromright {
012      margin-right:      20px;
013      margin-top:             -20px;
014      -webkit-transform: scale(0.8) rotate(-
10deg);
015      -moz-transform: scale(0.8) rotate(-
10deg);
016      -ms-transform: scale(0.8) rotate(-
10deg);
017    }
```

21 Test and repeat

Test that your animation works successfully, and tweak the positioning of the before and after values until you get a result that you are happy with. Now work your way through the other elements on the page adding in animation as desired until you've completed your design and interactions.

22 Taking it to the next level

You've now completed your very own CSS-only animation! However, this is just the beginning. Given the same technique you could easily create other things like a fluid tabbed design, or a linear photo slider. Consider how you might take advantage of the :target class, and be sure to let us know how you get on via email, Facebook or Twitter!

Create eye-catching box blur effects

We are going to delve into some HTML5, CSS3 and jQuery to create a nice blur effect that animates in and out as you hover over it.

tools | tech | trends HTML5, jQuery, CSS3, Dreamweaver
expert Neil Pearce

On the CD
· Blur_effect.zip

n this tutorial we are going to create a simple blur effect for text-based items. The idea is to have a set of text boxes that will get blurred and scaled down once we hover over one of them, but the item you hover over will stay in focus, singling it out and highlighting it to the viewer. So if you are looking to add some nice interactive effects to your blog or information site, then this tutorial is going to be ideal for you. What we will do is populate our text boxes with fake testimonials for a site, so anyone who is interested in reading more would just need to rollover that testimonial.

We'll be using CSS3 transitions here, and also some jQuery to apply the respective classes. Since CSS3 transitions are not supported by older web browsers, the finished tutorial will be best viewed in Safari, Firefox or Chrome – not any variation of Internet Explorer. So open up your favourite text editor (we've decided to go with Dreamweaver) and let's get started!

The web design company

"We are so excited to see our website designed and developed properly, and professionally."

April 1, 2012 - by Neil Pearce

❝ The item you hover over will stay in focus, singling it out and highlighting it to the viewer ❞

01 Get started

First, open up your text editor and create a new HTML5 file; call it 'index.html'. Then create two folders, one called 'css' and the other called 'js'. Now create a 'styles.css' file inside the css folder and do the same for the js folder with a file called 'scripts.js'. Then open up your 'index.html' file making sure you include a link to your style sheet within the head.

```
001  <!DOCTYPE HTML>
002  <html>
003  <head>
004  <meta charset="utf-8">
005  <title>Testimonial item blur effect</title>
006  <link rel="stylesheet" href="css/styles.
css">
007  </head>
008  <body>
009  </body>
010  </html>
```

02 The header

We are going to add a container div using the section tag just underneath the <body> tag, so we can centre our testimonials on our page using CSS. And then we are going to add a <header> tag that contains our main title for our page, which of course we are going to style slightly later on.

```
001  <section class="container">
002  <header>
003    <h1>Testimonial Blur Effect  with HTML5,
CSS3 &amp; jQuery</h1>
```

Testimonial Blur Effect with HTML5, CSS3 & jQuery

The web design company
"We are so excited to see our website designed and developed properly, and professionally."
April 1, 2012 - by Neil Pearce
The web design company
"We are so excited to see our website designed and developed properly, and professionally."
April 1, 2012 - by Neil Pearce
The web design company
"We are so excited to see our website designed and developed properly, and professionally."
April 1, 2012 - by Neil Pearce
The web design company
"We are so excited to see our website designed and developed properly, and professionally."
April 1, 2012 - by Neil Pearce

<Left, top to bottom>
• With the background texture added and the page title styled, it doesn't look great just yet!

• We can see the first bit of our CSS3 with the 'border-radius' in full view on the page title

Testimonial Blur Effect with HTML5, CSS3 & jQuery

```
004  </header>
005  </section><!-- END container -->
```

03 Inner container

In this step we will create an inner container to hold our testimonials. We will give it both a class and id. The class will be used for our CSS and the id is going to be used as a hook for our jQuery. As this is a section of our page, it makes sense to use the section tag here.

```
001  <section class="inner-container" id="inner-container">
002  </section>
```

04 Article tag

Within our inner container we can add our first testimonial. Now we are going to use the <article> tag here, but you can also use the <blockqoute>, <div> or <section> tags. The difference is somewhat confusing but, like the <section> tag, the <article> tag typically has a heading (often in a header element), and sometimes a footer so this is a good candidate for a snippet of text.

```
001  <article>
002      <p>&quot; In order to view and
understand the history or reality of the past,
one must view all events as part of an
interactive whole&quot;</p>
003      <p class="client-name">April 1, 2012 -
by Neil Pearce</p>
004  </article>
```

05 More articles

We added a class called 'client-name' to the bottom <p> tag so we can style it nicely later on, and

then we added the quotation marks using HTML to help keep it nice and clean. Copy and paste that article we did in the last step, and paste it several more times to finish off our HTML markup code.

```
001  <section class="inner-container" id="inner-container">
002      <article>
003          <p>&quot;In order to view and
understand the history or reality of the past,
one must view all events as part of an
interactive whole&quot;</p>
004          <p class="client-name">April 1,
2012 - by Neil Pearce</p>
005      </article>
006      <article>
007          <p>&quot;In order to view and
understand the history or reality of the past,
one must view all events as part of an
interactive whole&quot;</p>
008          <p class="client-name">April 1,
2012 - by Neil Pearce</p>
009      </article>
010      <article>
011          <p>&quot;In order to view and
understand the history or reality of the past,
one must view all events as part of an
interactive whole&quot;</p>
012          <p class="client-name">April 1,
2012 - by Neil Pearce</p>
013      </article>
014      <article>
015          <p>&quot;Today we will show you some
examples of websites that are using beautiful
and inspiring color combinations that match
```

perfectly and create an eye candy"</p>
```
016          <p class="client-name">April 1,
2012 - by Neil Pearce</p>
017      </article>
018  </section><!-- END container -->
```

06 Adding some style

Open up your CSS file and add in your reset. If you don't have a reset then you can use Eric Meyer's by following this link **meyerweb.com/eric/tools/css/reset**. Then add in your background image (if you are using one) and style our page title. We have used a Google Web Font for our page title, and this can be found at **www.google.com/webfonts** by searching for 'Droid'.

```
001  body {
002      background: url('../imgs/bg.png');
003  }
004  header h1 {
005      font-family: 'Droid Sans', sans-serif;
006      font-size: 19px;
007      background: #ddd;
008      padding: 30px;
009      border-radius: 6px;
010  }
```

07 Container

Let's add a rule for the outer container and inner container that will centre everything on our page. We want to make it 930px wide, and to give it some room at the top we have added a 30px margin.

```
001  .inner-container, .container{
002      position: relative;
003      width: 930px;
004      margin: 30px auto;
005  }
```

08 Clearfix

Because our articles will be floated, we need to clear the float. Rather than insert extra non-semantic markup to clear the float on container elements, we can use pseudo elements (:before and :after) to do all the hard work for us. This is commonly called clearfix, and it is very effective solution in resolving layout issues and browser inconsistencies without the need to mix structure with presentation.

```
001  .inner-container:before,
002  .inner-container:after {
003      content:"";
004      display:table;
005  }
006  .inner-container:after {
007      clear:both;
008  }
```

09 Article styles

With our articles, we need to make them block-level elements and give them a fixed height and

Create eye-catching box blur effects

<Above>
• Things are starting to take shape as the styles for the article boxes are added in
<Left>
• We have the active state working together with the box-shadow property

width. Further down we add in the -webkit-backface-visibility property. We use this property to specify whether or not an element is visible when it is not facing the screen. Also, we'll add the transition for three properties: opacity, transform and box-shadow. These will give us this nice animation effect.

```
001  .inner-container article{
002  display: block;
003  width: 180px;height: 220px;
004  background: #fff;
005  cursor: pointer;
006  float: left;
007  border: 10px solid #fff;
008  text-align: left;
009  text-transform: none;
010  margin: 15px;
011  z-index: 1;
012  -webkit-backface-visibility: hidden;
013  box-shadow:
014  0px 0px 0px 10px rgba(255,255,255,1),
015  1px 1px 3px 10px rgba(0,0,0,0.2);
016  -webkit-transition:
017  opacity 0.4s linear,
018  -webkit-transform 0.4s ease-in-out,
019  box-shadow 0.4s ease-in-out;
020  }
```

Testimonial headers

Now we are going to style our titles to our testimonials. So, use our Google Web Font and give it a size of 14px. To push it away from any content below, we add in a bottom margin of 20px. We then add a little bit

more style by giving it a subtle drop shadow using the text-shadow property.

```
001  .inner-container h3 {
002  font-family: 'Droid Sans', sans-serif;
003  font-size: 14px;
004  margin-bottom: 20px;
005  font-weight: 400;
006  color: rgba(0, 0, 0, 1);
007  text-shadow: 0px 0px 0px #000;
008  opacity: 0.8;
009  }
```

Styling the text

The next step will be to style the text within the <p> tags. We are going to use the Verdana font and a font size of 11px. We then give it a line-height to space out each line and very subtle drop shadow to the text to bring it out slightly. Then we can turn down its opacity for yet another subtle effect and to help readability.

```
001  .inner-container article p{
002  font-family: Verdana, sans-serif;
003  font-size: 11px;
004  line-height: 18px;
005  color: #333;
006  text-shadow: 0px 0px 0px #000;
007  opacity: 0.8;
008  }
```

Content transitions.

Let's add the animation for the inner content using transition. But this time we have added transitions

for all supported browsers, which include Safari, Firefox, Opera and IE10+. So we are adding these animated transitions to any content that is within both the <p> and <h3> tags.

```
001  .inner-container h3,
002  .inner-container article p {
003      transition:
004          opacity 0.2s linear,
005          text-shadow 0.5s ease-in-out,
006          color 0.5s ease-in-out;
007  -webkit-transition:
008      opacity 0.2s linear,
009      text-shadow 0.5s ease-in-out,
010      color 0.5s ease-in-out;
011  -moz-transition:
012      opacity 0.2s linear,
013      text-shadow 0.5s ease-in-out,
014      color 0.5s ease-in-out;
015  -o-transition:
016      opacity 0.2s linear,
017      text-shadow 0.5s ease-in-out,
018      color 0.5s ease-in-out;
019  -ms-transition:
020      opacity 0.2s linear,
021      text-shadow 0.5s ease-in-out,
022      color 0.5s ease-in-out;
023  }
```

Blur it

In the next few steps we are going to add some CSS3 that will blur out the boxes that are not active (hovered over). First, let's blur out the background of our boxes. Now, we are styling a class called 'blur' that we haven't included in our HTML. However, what we will do is add that class using jQuery in a later step.

```
001  .inner-container article.blur{
002      box-shadow: 0px 0px 20px 10px #ddd;
003      -webkit-transform: scale(0.8);
004      -moz-transform: scale(0.8);
005      -o-transform: scale(0.8);
006      -ms-transform: scale(0.8);;
007      transform: scale(0.8);
008      opacity: 0.7;
009  }
```

More blur

To finish off our blur effect in the CSS, add some styles to both the <h3> and <p> tags so the title text and paragraphs get blurred out too. We can achieve that by adding no colour to our text-shadow and increasing its blur by 10px. Then we turn off its colour and bring down its Opacity to 0.5.

```
001  .inner-container article.blur h3 {
002      text-shadow: 0px 0px 10px rgba(0, 0, 0, 0.9);
003      color: rgba(0, 0, 0, 0);
004      opacity: 0.5;
```

```
005  }
006  .inner-container article.blur  p{
007     text-shadow: 0px 0px 10px rgba(51, 51,
51, 0.9);
008     color: rgba(51, 51, 51, 0);
009     opacity: 0.5;
010  }
```

15 The active state

Like the .blur class, the active class will be added by the jQuery script that we will write in a bit. So when this class is added to the hovered box, we want to scale it up and then give it a stronger drop shadow using the box-shadow property. We then need to make sure its z-index is greater than anything else, and then we will set the content's Opacity to 1.

```
001  .inner-container article.active{
002     -webkit-transform: scale(1.05);
003     -moz-transform: scale(1.05);
004     -o-transform: scale(1.05);
005     -ms-transform: scale(1.05);
006     transform: scale(1.05);
007     box-shadow:
008     0px 0px 0px 10px rgba(255,255,255,1),
009     1px 11px 15px 10px rgba(0,0,0,0.4);
010     z-index: 100;
011     opacity: 1;
012  }
013  .inner-container article.active h3,
014  .inner-container article.active p{
015     opacity; 1;
016  }
```

16 Client name

So our last CSS rule will be for the client name, shown directly underneath the testimonial text. From looking at the code you will see it's very straightforward, and the only thing we need to remember is to float it left so we can add some top margin that enables us to push it down further.
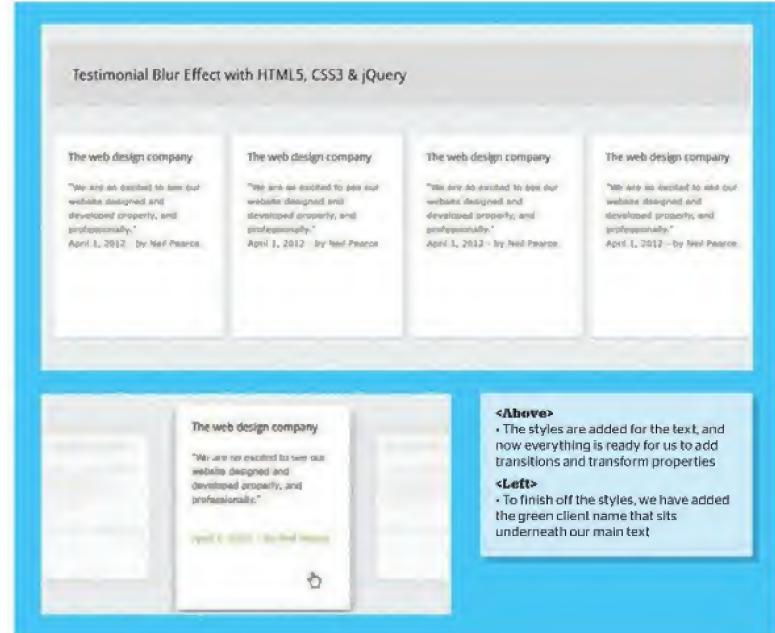
```
001  article p.client-name {
002     float: left;
003     color: #99cc66;
004     font-size: 12px;
005     font-style: italic;
006     margin-top: 30px;
007  }
```

17 The jQuery

Now open up the scripts.js file that we created in the first step, and add in this jQuery code. What we are

doing here is creating a few variables to use in our mouseenter and mouseleave events. So when we hover over an article, we will have set it so that all the other articles (the class blur and the current one) will receive the class active.

```
001  $(document).ready(function() {
002  var $container  = $('#inner-container'),
003      $articles   = $container.
children('article'),
004      timeout;
005  $articles.on( 'mouseenter', function( event
) {
006      var $article = $(this);
007      clearTimeout( timeout );
008      timeout = setTimeout( function() {
009          if( $article.hasClass('active') )
return false;
010          $articles.not($article).
removeClass('active').addClass('blur');
011          $article.removeClass('blur').
addClass('active');
```

(Figure panel)

Testimonial Blur Effect with HTML5, CSS3 & jQuery

The web design company

"We are so excited to see our website designed and developed properly, and professionally."

April 1, 2012 - by Neil Pearce

The web design company

"We are so excited to see our website designed and developed properly, and professionally."

April 1, 2012 - by Neil Pearce

<Above>
• The styles are added for the text, and now everything is ready for us to add transitions and transform properties

<Left>
• To finish off the styles, we have added the green client name that sits underneath our main text

```
012      }, 75 );
013  });
014  $container.on( 'mouseleave', function(
event ) {
015      clearTimeout( timeout );
016      $articles.removeClass('active blur');
017  });
018  });
```

18 Linking up the scripts

All this CSS and jQuery is of no use to us at all until we link to them. So within our <head> tag, place the CSS and jQuery links as normal. However, it is now considered best practice to place all your scripts at the very bottom of your page, so we encourage you to do just that. So, CSS in the <head> tag, and scripts just above the closing </body> tag.

```
001  <!-- CSS -->
002  <link rel="stylesheet" href="css/styles.
css">
003  <link href='http://fonts.googleapis.com/
css?family=Droid+Sans' rel='stylesheet'
type='text/css'>
004  <!-- scripts -->
005  <script type="text/javascript" src="http://
ajax.googleapis.com/ajax/libs/jquery/1.7.1/
jquery.min.js"></script>
006
```

❝ It is considered best practice to place all your scripts at the very bottom of your page so we encourage you to do that ❞

Build an HTML5 game with EaselJS: part 2

Add core parts of the game engine:
gravity, collision-detect and movement

tools|tech|trends Dreamweaver, HTML5, EaselJS
expert Mark Shufflebottom

On the CD
• Start Project folder
• Finished Project folder

‹Above›
• We apply collision detection with the platforms by checking the registration point of the player with the screen position and width and height of each platform

L ast month we created all the assets that we needed to work with in our game, such as the background scene, the player, and the crates, as reusable code objects in JavaScript using the EaselJS framework. This month we are going to embark on the more exciting part of the journey, putting it all together to make a playable game. We are going to use two different types of collision detection: rectangular collision detection – or bounding box, as it's more commonly known - and circular collision detection. Not only that, but we'll be applying gravity and making our character jump from platform to platform, using the space bar to launch our player and the cursor keys to control its movement.

It seems that a lot can happen in a month! Since we started work on this game there have been several big developments with EaselJS. First, it's now just one part of a larger suite of open-source JavaScript libraries called CreateJS, and this comprises a tweening engine, a sound player and a preloader, so be sure to keep an eye out for those. Bigger news is that there will be an extension panel available for Adobe Flash CS6 that will allow you to export all your animation and assets directly to HTML5 Canvas, and it will use EaselJS to power the display list.

> ❝ CreateJS comprises a tweening engine, a sound player and a preloader, so be sure to keep an eye out for those ❞

01 Picking up from last issue

Open the document where you left off last month, or copy the start folder onto your computer from the cover CD. We're going to add our entire code listed in all steps sequentially, starting under the handleImageLoad function we added last month. This first code adds the background image, door and hero to our Canvas element.

```
001   function start(){
002     var bg = new Bitmap(bgimg);
003     stage.addChild(bg);
004     door = new Bitmap (dimg);
005     door.x = 131;
006     door.y = 384;
007     stage.addChild(door);
008     hero = new Hero(img);
009     hero.x = 80;
010     hero.y = 450;
011     stage.addChild(hero);
```

02 Stand clear of the platform

We now set up a new array to hold all the falling crates and platforms in. We start a for loop and add new platforms to the stage using the platformW, platformX and platformY array we set up last time to position each on the stage. The platforms are pushed into an Array, which we'll use for collision detection later.

```
001   crates = new Array();
002   platforms = new Array();
003   for(i=0; i < platformW.length; i++){
004     var platform = new
Platform(platformW[i],20);
005     platforms.push(platform);
006     stage.addChild(platform);
007     platform.x = platformX[i];
008     platform.y = platformY[i];
009   }
```

03 Set up the crates

We use another for loop to add five crates to the scene and position them off the top using the resetCrates function we'll create later. We also add the key, which must be collected to complete the level.

```
001   for(j=0; j < 5; j++){
002     var crate = new Crate();
003     crates.push(crate);
004     stage.addChild(crate);
005     resetCrates(crate);
006   }
007   key = new Bitmap(kimg);
008   key.x = 900;
009   key.y = 490;
010   stage.addChild(key);
```

04 Set up the ticker

The ticker is what happens every frame and it calls the function 'tick'. Here we set the ticker to run at

<Left>
• Using a for loop we cycle through each crate on the screen and move it farther down the screen. We also make it rotate

<Above, top to bottom>
• We check to see if the player is within touching distance of the key, and if so, we make the key and the door disappear

• If the key has been picked up and the player is within touching distance of the door then we signal that this level is over

Editing objects

Just like in Flash ActionScript, EaselJS uses very simple terminology to add and remove elements from the stage. A simple addChild or removeChild will do the job!

30 frames per second and to update the stage display. The actual tick function will be created in our next step and this holds the vast quantity of code to make our game actually work.

```
001    Ticker.setFPS(30);
002    Ticker.addListener(window);
003    stage.update();
004 }
```

Making the game tick

Now we set up the tick function discussed in the last step. We set the heroCenter on the Y axis to enable collision detection around our little player. We set up an if statement to check if the game is currently playing, and if so we apply gravity. This means that if the player is in the air, we apply gravity to it to bring it back down to earth. We limit it at no more than 15, so it doesn't get too fast and comes down naturally.

```
001    function tick() {
002      heroCenter = hero.y-40;
003      if (play){
004        vy+=gravity;
005        if (inAir){
006          hero.y+=vy;
007        }
008        if (vy>15){
```

```
009          vy=15;
010        }
```

Rectangular collision detection

We set up a for loop to check against each platform with an if statement. This checks to see if the player's X and Y position is over any of the platforms on the screen. It checks this using the width and height property of each of the platforms. This is a relatively easy way to get rectangular collision detection.

```
001    for(i=0; i < platforms.length; i++){
002      if (hero.y >= platforms[i].y && hero.y<=
(platforms[i].y+platforms[i].height) && hero.x
> platforms[i].x && hero.x<(platforms[i].
x+platforms[i].width)){;
```

Stop the movement

If the player is touching a platform then we set their Y position to that of the platform. We then stop all velocity on the Y axis and set our jumping and inAir variables to false. Notice we break the loop here to avoid any further collision tests. If we're not touching, you'll notice that we set the inAir variable to true.

```
001      hero.y=platforms[i].y;
002      vy=0;
003      jumping = false;
```

```
004      inAir = false;
005      break;
006    }else{
007      inAir = true;
008    }
009 }
```

Move the crates

Here we set up a for loop to cycle through each of the crates on screen. Each crate is moved at a random speed down the screen and rotated. If the crate moves off the bottom of the screen then the resetCrates function is called to position it at the top again. If the crate collides with the hero then we call the gameOver function.

```
001    for(j=0; j < crates.length; j++){
002      var ct = crates[j];
003      ct.y+=ct.speed;
004      ct.rotation+=3;
```

```
005   if (ct.y>650){
006     resetCrates(ct);
007     }
008   if (collisionHero (ct.x, ct.y, 20)){
009     gameOver();
010   }
011 }
012
```

09 Other player collisions

As well as checking collisions against crates and platforms, we need to check to see if the player touches the key; if they do then we make both the key and door invisible. If the player collides with the door and the key is invisible then we call the nextLevel function, but we haven't built that yet. The last two lines move the player in left and right right.

```
001   if (collisionHero (key.x+20, key.y+20,
20)){
002       key.visible=false;
003       door.visible=false;
004     }
005 if (collisionHero (door.x+20, door.y+40,
20) && key.visible==false){nextLevel();}
006     if (lfHeld){vx = -5;}
007     if (rtHeld){vx = 5;}
```

10 Play the right animation

Here we make sure the correct walk cycle is played when the player is moving. If the Left key is pressed, they haven't already pressed this key and they're on the ground. Then we start the left walk cycle, which is flipped on the horizontal axis. The keyDn

variable is set to true so the walk cycle doesn't keep playing the first frame.

```
001 if(lfHeld && keyDn==false && inAir==false){
002     hero.gotoAndPlay("walk_h");
003     keyDn=true;
004 }
005 if(rtHeld && keyDn==false &&  inAir==false)
{
006     hero.gotoAndPlay("walk");
007     keyDn=true;
008 }
```

11 Standing still

Just getting the player to have the right stance when not moving requires a fair amount of testing. Here we check which direction the player was last moving in, that the player is on the ground, and not pushing any key. Then we can set the appropriate idle frame.

```
001 if (dir=="left" && keyDn==false &&
inAir==false){
002     hero.gotoAndStop("idle_h");
003 }
004 if (dir=="right" && keyDn==false &&
inAir==false){
005     hero.gotoAndStop("idle");
006 }
```

12 Move the player

We want the player to move on the stage left and right so we apply the vx (velocity x) variable to the X axis. We apply a little inertia to this variable so that

when a key is released the player slows to a halt. If the hero falls off the bottom of the screen, the gameOver function is called. Finally, each tick, we update the stage.

```
001     hero.x+=vx;
002 vx=vx*0.5;
003     if (hero.y>610){
004       gameOver();
005     }
006   }
007   stage.update();
008 }
```

13 When play is over

Here we set up a function to clean up the view on the screen when the game comes to an end. It removes all the crates by looping through the crates array. The player is made invisible as well so that the gamer is fully aware that play has finished. Without the last line, we wouldn't see any of these changes.

```
001 function end(){
002   play=false;
003   var l = crates.length;
004   for (var i=0; i<l; i++) {
005     var c = crates[i];
```
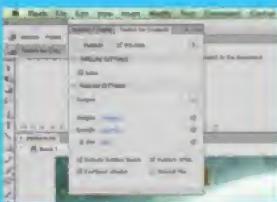
Flash CS6 exports content to EaselJS

Adobe is now sponsoring EaselJS that is written by long-time Flash guru, Grant Skinner. He's been very busy creating a sound player, as it can be tricky to get sound working cross-platform in HTML5, and he's also written a preloader that will load all your assets – so the visitor gets the full experience you intend instead of stuttered loading of assets. This whole suite of tools is called CreateJS and it has a new home (www.createjs.com) that links to the documentation. If you want a preview of how this will work with Flash CS6, check out this video – adobe.ly/zcbTUk. This will put you well ahead of the influx of new users that will be using EaselJS to publish to HTML5 Canvas as part of Flash CS6.

```
006     resetCrates(c);
007   }
008   hero.visible=false;
009   stage.update();
010 }
```

14 Level end

If the player is successful at getting the key and getting out of the door, then this message is placed on the screen. This is positioned in the centre to the stage and the end function is called that cleans up the stage of play objects. Notice the \n stands for new line.

```
001 function nextLevel(){
002   gameTxt = new Text("Well Done\n\n",
"36px Arial", "#000");
003   gameTxt.text += "Prepare for Level 2";
004   gameTxt.textAlign = "center";
005   gameTxt.x = canvas.width / 2;
006   gameTxt.y = canvas.height / 4;
007   stage.addChild(gameTxt);
008   end();
009 }
```

15 When the game is over

The gameOver function is very similar to the last in that we place text on the stage, calling the appropriate typeface and colour. It's placed in the centre of the canvas by making the text align to the centre and then positioning it on the X axis at half of the canvas width.

```
001 function gameOver(){
002   gameTxt = new Text("Game Over\n\n",
"36px Arial", "#000");
003   gameTxt.text += "Click to play again.";
004   gameTxt.textAlign = "center";
005   gameTxt.x = canvas.width / 2;
```

16 Adding a click

The text is placed at a quarter of the way down the screen by dividing the canvas height by four. Again the end function is called to clean the screen up from game elements. There is one final addition to the gameOver function, which is a click function to use the mouse to restart.

```
001   gameTxt.y = canvas.height / 4;
002   stage.addChild(gameTxt);
003   end();
004   canvas.onclick = handleClick;
005 }
```

17 Handling the click

When the player clicks to restart the game, this function is called. We reset the visibility and position of the hero on the screen so that the player can start playing again. Notice how positioning objects is as simple as setting the X and Y co-ordinates of the object. This is just like we would have done in Flash.

```
001 function handleClick() {
002   canvas.onclick = null;
003   hero.visible=true;
004   hero.x = 80;
005   hero.y = 450;
```

18 Add game objects

We turn on the visibility of the door and key, just in case the player had successfully collected the key and then died. The text is removed from the stage and the play variable is set to true, which causes the crates to start to fall, the gravity to work and all collision detections to start.

```
001   door.visible=true;
002   key.visible=true;
003   stage.removeChild(gameTxt);
004   play=true;
005 }
```

19 Radial collision detection

This function is called to test collisions against the crates, key and door. It uses Pythagoras' Theorem to generate a circle around the objects and test the distance against each other. If they end up colliding then the function returns true and we know a collision has taken place.

```
001 function collisionHero (xPos, yPos,
Radius){
002   var distX = xPos - hero.x;
003   var distY = yPos - heroCenter;
004   var distR = Radius + 20;
005   if (distX * distX + distY * distY <=
distR * distR){
006     return true;
007   }
008 }
```

20 Make the jump

Now we add the jump function, which first of all makes sure that our player is not already jumping or falling – after all, we wouldn't want to be able to jump if we were doing that. Then depending which way our player is facing we send the appropriate animation to be displayed for our jump action.

```
001   function jump(){
002   if (jumping == false && inAir == false){
003     if (dir=="right"){
004       hero.gotoAndStop("jump");
005     }else{
006       hero.gotoAndStop("jump_h");
007     }
```

21 Moving on up

Once we have set our player to the right animation we need to push the player into the air. We do that by giving an initial lift of -20px upwards and then set the downward velocity to a negative number, forcing the player up. This will return to a positive number as we constantly add the gravity variable in step 5.

```
001   hero.y -= 20;
002   vy = -25;
003   jumping = true;
004   keyOn=false;
005   }
006 }
```

22 Positioning the crates

The final step is putting the crates at random positions on the X and Y axes, while also applying a random speed. Now save the project so far and test this out in a browser. You will be able to steer your player to the key, using the Spacebar to jump across the platforms, before returning to the door.

```
001   function resetCrates(crt) {
002   crt.x = canvas.width * Math.random()|0;
003   crt.y = 0 - Math.random()*500;
004   crt.speed = (Math.random()*5)+8;
005 }
```

Give your WordPress project Roots

Use the Roots Theme to make a development-ready site with HTML5 Boilerplate and Twitter bootstrap

tools | tech | trends Text Editor, PHP, HTML, CSS, jQuery
expert Ben Frain

<Above>
• By default Roots Theme includes Boostrap's CSS and JavaScript, so there's a clean look to kick off with

A common frustration when developing with WordPress is stripping down and amending the default theme to make it more development friendly. The Roots Theme (**rootstheme.com**) removes much of this hassle. It uses HTML5 Boilerplate as the base for markup and also installs the HTML5 Boilerplate .htaccess file with it. If that wasn't good enough, it also includes Twitter's Bootstrap responsive grid by default for rapid prototyping.

There are further time savers too. It installs a home page with Lorem Ipsum text, changes the permalink structure, adds a primary navigation menu and adds any existing primary pages to the navigation. It also does a great job of cleaning up the URLs WordPress uses as default for theme assets. Instead of themes/roots/css for example, you just get /css instead.

Finally, there are other little goodies installed by default: a custom HTML5 search template, loop templates for archives, posts and pages and all post dates are based on the hNews microformat.

As ever though, every build is different, so we'll start with the default WordPress install, add the Roots Theme and then tweak it to add extra JavaScript files, customise the loop and switch off the default Twitter Bootstrap styling.

Install WordPress
If the hosting platform has a one-click install for WordPress, such as Fantastico or Installatron, that's usually the fastest and easiest option. Alternatively, upload the WordPress files manually, create a database and follow the five-minute install. A quick shortcut if you have Shell (SSH) access is to download and unzip everything directly.

```
001 wget http://WordPress.org/latest.tar.gz
002 tar xfz latest.tar.gz
```

Install the Roots Theme
The Roots Theme isn't available by browsing WordPress themes in the Admin interface, so you'll need to download it from **rootstheme.com**. Now upload the theme to the Themes folder under the WP-Content tab, and refresh the WordPress Themes screen found under Admin>Appearance. Now click Activate under the Roots Theme. For a quicker download of Roots, if you're a Git user, run the following:

```
001 git clone https://github.com/retlehs/roots.
git
```

Customise activation
By default, activating the Roots Theme will do a number of things: create a static front page, change the permalink structure, change the default uploads folder, create a navigation menu and add existing pages to that menu. To customise these choices, just amend the drop-downs to suit. Here, we are opting out of the menu related choices.

Customise default classes
By default, the Roots Theme adds class names to divs based on Twitter's Bootstrap naming convention. If you don't need these class names or would simply like to change them to something different, open the 'roots-config.php' file and amend the names to suit. To show you an example, here we're changing the main classes value to spanMain.

```
001 <?php
002
003 define('POST_EXCERPT_LENGTH', 40);
004 define('BOOTSTRAP_RESPONSIVE', true);
005 define('WRAP_CLASSES',      'container');
006 define('CONTAINER_CLASSES',     'row');
007 define('MAIN_CLASSES',        'spanMain');
008 define('SIDEBAR_CLASSES',       'span4');
009 define('FULLWIDTH_CLASSES',     'span12');
010 define('GOOGLE_ANALYTICS_ID',   '');
```

Remove Bootstrap JavaScript
If you have no need for the Bootstrap JavaScript plug-ins (tooltips, modals and the like) you can prevent them loading. By default the code for these is stored within the 'plugins.js' file. Either remove the relevant code or prevent plugins.js loading altogether (which will
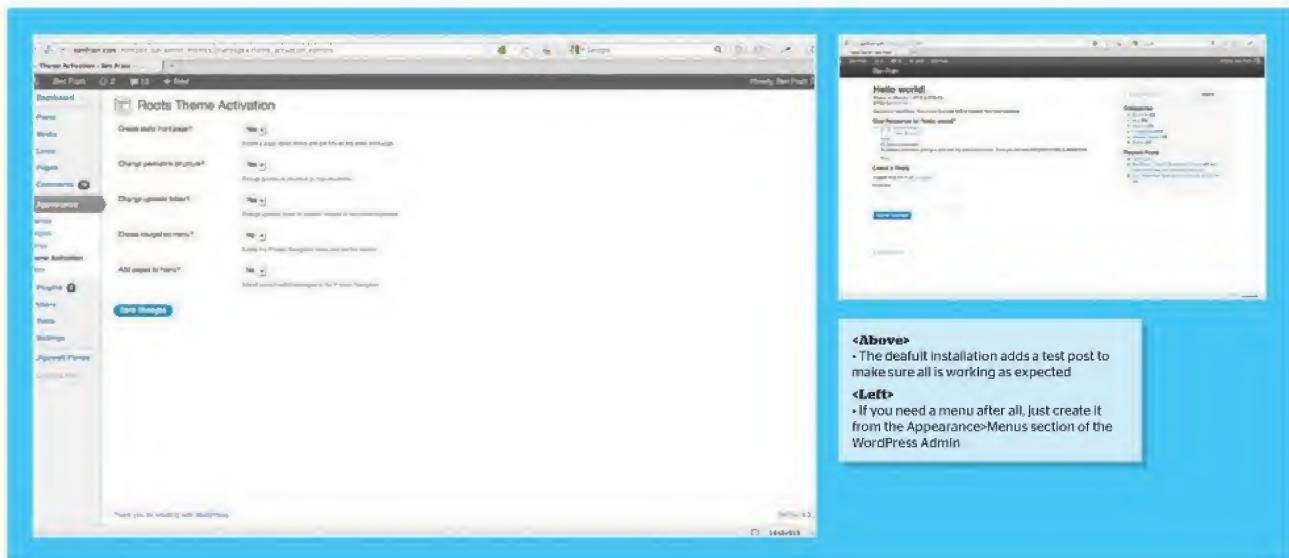
The Roots Theme also includes Twitter's Bootstrap responsive grid by default for rapid prototyping

also remove the H5BP console section) by amending the 'roots-scripts.php' file.

```
001  // wp_register_script('roots_plugins',
get_template_directory_uri() . '/js/plugins.
js', false, null, false);
002  wp_register_script('roots_script', get_
template_directory_uri() . '/js/script.js',
false, null, false);
003  // wp_enqueue_script('roots_plugins');
004  wp_enqueue_script('roots_script');
```

06 Remove Boostrap CSS

Like the Bootstrap JavaScript, the Bootstrap CSS may not suit your project needs. If that's the case, to save over-writing the Bootstrap CSS styles (H5BP styles live in the 'styles.css' file instead), remove them entirely by editing the roots-scripts.php file and commenting out the relevant file loads. This will also save a few un-needed HTTP requests to aid site speed:

```
001  <?php
002  function roots_scripts() {
003    wp_enqueue_style('roots_style', get_
template_directory_uri() . '/css/style.css',
false, null);
004    /* wp_enqueue_style('roots_bootstrap_
style', get_template_directory_uri() . '/css/
bootstrap.css', array('roots_style'), null);
005    if (BOOTSTRAP_RESPONSIVE) {
006      wp_enqueue_style('roots_bootstrap_
responsive_style', get_template_directory_
uri() . '/css/bootstrap-responsive.css',
```

```
array('roots_bootstrap_style'), null);
007    }
008    wp_enqueue_style('roots_app_style', get_
template_directory_uri() . '/css/app.css',
false, null);
009    */
```

07 Add analytics code

If you want to add a Google Analytics tracking script to every page, unlike prior versions of the Roots Theme, there's no option in the WordPress Admin area to add your Google Analytics code. Instead, open 'roots-config.php' and enter the tracking code manually. Be sure to amend the string to your own tracking code.

```
001  define('GOOGLE_ANALYTICS_ID',  'UA-
YOURCODE-HERE-1');
```

08 Adding custom functions

You can add your own WordPress and PHP functions directly into the 'functions.php' file in the root of the Roots Theme if you wish. However, a blank file for custom PHP functions is pre-made at 'roots-custom. php'. We're adding a filter to remove automatic adding of \<p\> tags in pages:

```
001  // disable auto p on pages
002  function get_rid_of_wpautop(){
003    remove_filter ('the_content',
'wpautop');
005    remove_filter ('the_excerpt',
'wpautop');
006    }
```

```
007  }
008  add_action( 'template_redirect', 'get_rid_
of_wpautop' );
```

09 Help responsive images

By default, images that are added into a post or page from the WordPress Admin area have the height and width attributes of the image included in the \<img\> tag. If you're building a responsive design, this can stop the images scaling appropriately when viewed on different viewports. Add this to the 'roots-custom.php' file to prevent the width and height attributes being added automatically.

```
001  // prevent image sizes being added through
editor
002  add_filter( 'post_thumbnail_html', 'remove_
thumbnail_dimensions', 10 );
003  add_filter( 'image_send_to_editor',
'remove_thumbnail_dimensions', 10 );
004  function remove_thumbnail_dimensions( $html
) {
005    $html = preg_replace( '/
(width|height)=\"\d*\"\s/', "", $html );
006    return $html;
007  }
```

10 Adding custom JavaScript

If you haven't disabled plugins.js (described in step 5) there is currently that file and the 'script.js' file loading by default into the \<head\>. If you've used the HTML5 Boilerplate before, you'll know that script.js is a blank file ready to insert your custom JavaScript into.

<Above>
• Roots Theme includes Modernizr, making it easy to enjoy all it has to offer. There's extensive documentation at modernizr.com.

<Left>
• Adding your Google Analytics code in the 'roots-config.php' file adds it to every page load
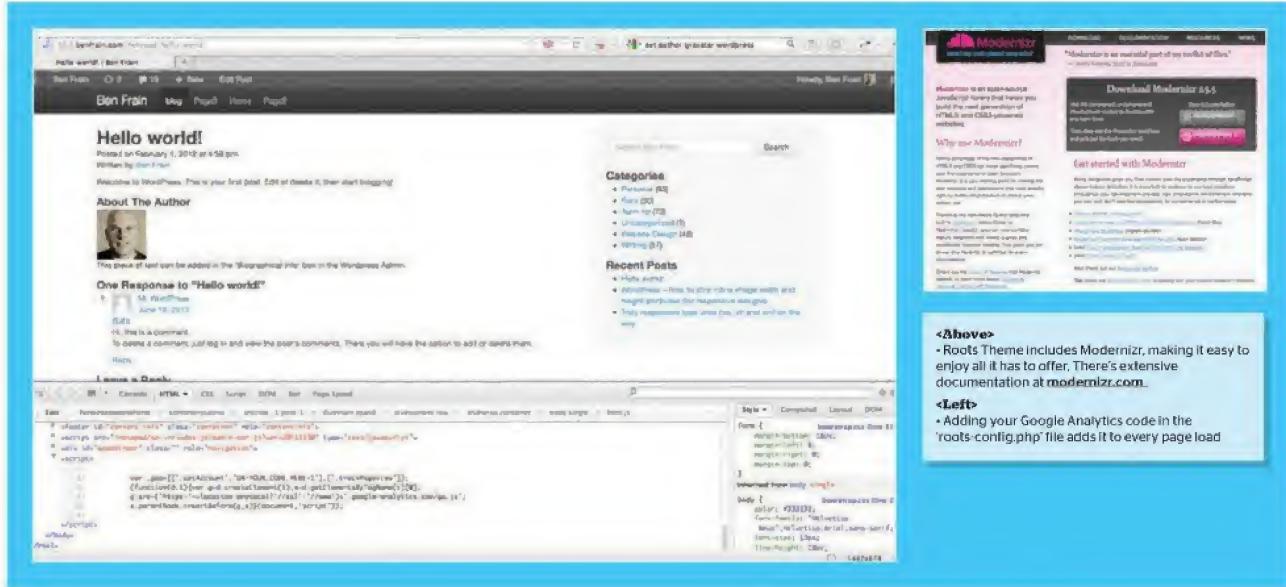
The jQuery library is loaded by default so you can add custom jQuery directly.

```
001 $(document).ready(function() {
002   // your code
003 });
```

Load additional JavaScripts

The cleanest way to load extra JavaScript files is via the roots-scripts.php file. Here we will load one called 'extra.js'. You can wrap as many conditions as you like, so the file only loads where needed. Here, it only loads if not in the Admin page and within our array (a page called either 'Page1', 'Page2' or 'Page3').

```
001 wp_enqueue_script('roots_script');
002 // Additional section added after the
existing line above
003 if ( !is_admin() && is_page(array('Page1','
Page2','Page3')) ) {
004   wp_register_script('roots_extra',
''.$template_uri.'/js/extra.js', false, null,
false);
005   wp_enqueue_script('roots_extra');
006 }
```

Modernizr out of the box

The Roots Theme includes the latest Modernizr JavaScript library by default so you can leverage its power to cleanly fork your CSS styles. The additional classes are added to the <html> tag so it's simple to write fallback styles to cover browser features and

shortcomings. For example, an SVG logo for modern browsers and a PNG for the others:

```
001 .logo {
002   background-image: url('../img/logo.
svgz');
003 }
004 .no-svg .logo {
005   background-image: url('../img/logo.png');
006 }
```

Conditionally load assets

As Modernizr is loaded by default, it makes it easier to conditionally load assets (CSS or JS files) based on any number of tests. For example, you might choose to load Scott Jehl's 'respond.js' to add media query support for oldIE. You can add this Modernizr test straight into the 'script.js' file and upload the 'respond.min.js' file into the js folder.

```
001 Modernizr.load([{
002   test: Modernizr.mq('only all'),
003   // If no media query support, load the
respond.js file.
004   nope: '/js/respond.min.js'
005 }]);
```

Add an author biography

To amend the loop for single page posts, open 'loop-single.php'. Here, we'll add an author biography box after the post content, that uses the text entered in the biographical info box in the WordPress admin and a

relevant gravatar. Look for <?php the_content(); ?> in the loop-single.php file and enter the following after it:

```
001 <div id="author-bio">
002   <h3>About The Author</h3>
003   <div><?php echo get_avatar( get_the_
author_email(), '80' ); ?></div>
004   <p><?php the_author_description(); ?></p>
005 </div>
```

Ready for development

Roots Theme is now set up with lean URLs that use the best practice markup structure of the HTML5 Boilerplate. We've added a custom function to stop WordPress adding height and width attributes, making a custom responsive design easier to implement. Blog post information is based on the hNews microformat. You can easily amend this by altering the roots_entry_meta function of 'functions.php' to suit.

```
001 // return post entry meta information
002 function roots_entry_meta() {
003   echo '<time class="updated" datetime="'.
get_the_time('c') .'" pubdate>'. sprintf(__
('Posted on %s at %s.', 'roots'), get_the_
date(), get_the_time()) .'</time>';
004   echo '<p class="byline author vcard">'.
__('Written by', 'roots') .' <a href="'.
get_author_posts_url(get_the_author_meta('id'))
.'" rel="author" class="fn">'. get_the_author()
.'</a></p>';
005 }
```

Create electric type effects

How to give your type a neon and lightbox feel with some simple and quick effects

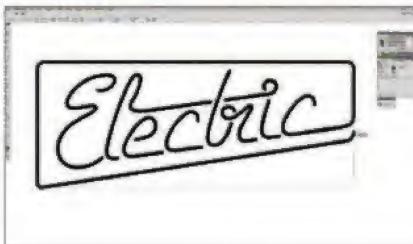**tools | tech | trends** Photoshop **expert** Steven Bonner

This tutorial is designed to show you how to use simple effects in the Photoshop arsenal to convincingly add a light-based finish to your type. We'll show you two methods to first create a simple neon sign, then move on to techniques that help you give type the appearance of a glass or Perspex illuminated sign, similar to that which you'd see on buildings. While the lettering itself can be created easily in Vector, Illustrator just doesn't have the features to add the effects shown here so quickly and easily, so Photoshop is the ideal tool due to its powerful handling of colour blending and the ability to create realistic light by layering options found in the effects menu.
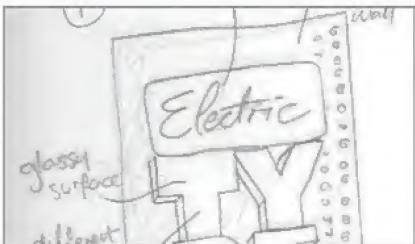
01 Sketch your layouts

Regardless of the image you're looking to create, always start your design with a plain old pencil and paper. You'll be able to very quickly rough out ideas and layouts, allowing you to visually determine what's working and disregard what isn't. You don't need to be amazing at drawing to work out a rough sketch like this to work from.

03 Add signage details

Once you're happy with your paths, thicken up the strokes and add a round cap to the lines so they appear more tubular. Next, draw an encasing shape around your word, which will form the basis of the sign frame that the neon lettering will sit against.


05 Create a frame

The last thing you need to draw in Vector is a frame for the letters to be attached to. Simply use the Line tool (\) and draw a straight vertical line, then hold Shift+Alt and click/drag the line across to duplicate it. Now select both lines and use the Blend tool (W) to create a blend of lines between the two. Repeat this process to draw some more lines horizontally, and make them slightly thinner this time.

02 Vector your words

One you're happy with your rough layout, start drawing the type. If you're using Illustrator (or indeed in Photoshop), use the Pen tool to trace over your sketches until you have a series of pleasing curves emulating the style you want to achieve. Remember that neon signage tends to have a lot of breaks, so design your type around that and find interesting ways to link your letters together to form a pleasing 'whole'.

04 Lightbox lettering

Next, you can either draw or use a font to create the lettering for the glass/Perspex lightbox letters. Try to use something quite thick and chunky to contrast the finer lines used in the neon tube lettering.


06 Organise in Photoshop

Once you've drawn all your elements, copy and paste them into a new 235 x 302mm RGB Photoshop doc as Smart Objects, and position the layers so they appear as per your initial layout – clearly labelled so you'll find each one later (make sure you copy and paste the vertical and horizontal groups of the frame as separate layers). Group the neon lettering, the sign shape, the lightbox letters and the frame in their own folders, and add a folder for the background.
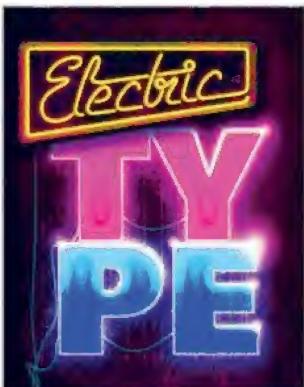
Build up from an initial sketch
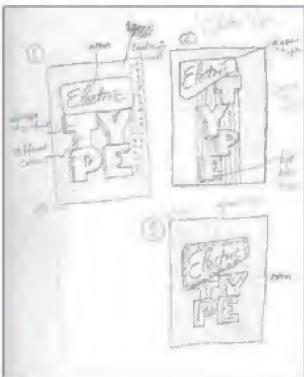
01_____Sketch layout and typestyle ideas
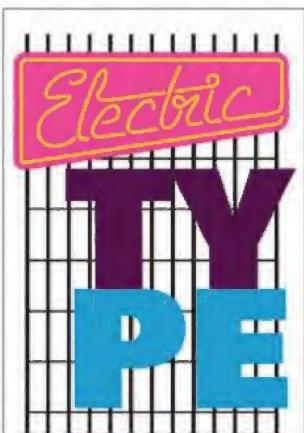
02_____Create the vector elements

03_____Apply blending, textures & effects

Lettering

If you're not a devotee of type already, try to learn a little more about different styles of lettering and play around with creating your own. The right style of custom lettering adds an amazing amount of personality, integrity, and will elevate a piece from just OK to fantastic. Creating your own lettering gives you a chance to use unusual connections between letters (called ligatures) that you often won't find in off-the-shelf fonts and allow you to put your own personal stamp on your work in a new way.

Quick tip

When drawing with the Pen tool in either Illustrator or Photoshop, try to place your anchor points 'in extremis', or at the most extreme ends of each line, so you can work by dragging handles on mainly vertical and horizontal planes. This means you are able to create much cleaner and more natural curves.

11 Finish off the sign frame

Now, one the original sign layer (organised at the top), add effects settings as follows: Drop Shadow (Multiply 75%, Distance 30px, Spread 33px, Size 180px, Noise 5%), Inner Shadow (Colour Burn, Opacity 75%, Distance 0px, Choke 50px, Size 50px), Inner Glow (Screen, Opacity 43%, Noise 6%, Choke 0px, Size 40%, Contour: Half Round), Bevel & Emboss (Pillow Emboss set to Chisel Hard, Depth 410%, Direction down, Size 13px, Soften 16px, Shading angle -90, Gloss Contour: Half Round with highlight set to Soft Light, and Contour switched on), Satin (Opacity 22%, Angle 90, Distance 13px, Size 13px, Contour: Gaussian), Stroke (Size 7px, Position inside, Opacity 85%). Now set the whole layer to a blend mode of Multiply.


07 Add a background

Next, create a new layer in the Background folder and name it 'BG', then use Alt+Delete to fill it with black. You can use any colour you like, or a subtle gradient if you prefer, as long as it's dark. Open up the Assets folder and drag the 'concrete texture' image onto your background colour, then set its blending mode to Soft Light. Add a layer mask and using a soft brush, paint away some of the texture so it fades to the background colour around the edges.


09 Add fixings to the frame

Turn on the Frame group and for the moment make the lightbox lettering layer visible, and where the lettering covers the overlaps between the lines of the frame, use a hard square brush to paint fixings onto the frame. Then in the effects menu, add a Drop Shadow (Multiply, Opacity 75%, Distance 4px, Spread 0px, Size 10px), and an Inner Shadow (Multiply, Distance 4px, Choke 0px, Size 10px). This will add a sense of realism to the semi see-through nature of the lettering we'll be adding. Turn the lightbox lettering layer off again.
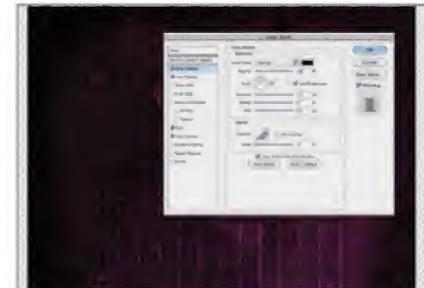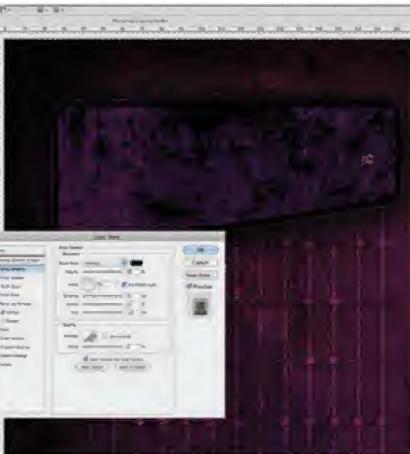
08 Texture the frame

All effects menu values should now be kept at their defaults. Click the vertical bars layer and apply the following: Drop Shadow (Multiply, Opacity 75%, Distance 15px, Spread 0px, Size 27px), Inner Shadow (Multiply, Opacity 75%, Distance 4px, Choke 0px, Size 10px), Satin (Multiply, Opacity 50%, Distance 18px, Size 13px, Contour: Gaussian), Colour Overlay (white). Then copy the layer style and apply it to the horizontal bars, ensuring they're underneath the vertical lines in the layer order.
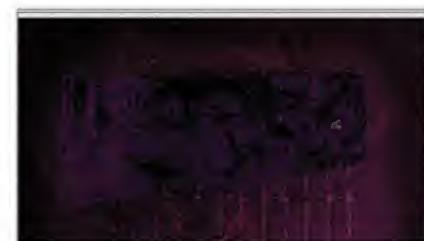
10 Making the neon sign box

Make the sign group visible and duplicate the sign layer. Open up the file 'Scratched Metal' and drag it onto your doc, then mask it inside your sign layer copy, changing it's blending mode to Hard Light and its opacity to 80%. Above this, we've added a Hue/Saturation Adjustment Layer to give the metal texture a darker, bluer colour.
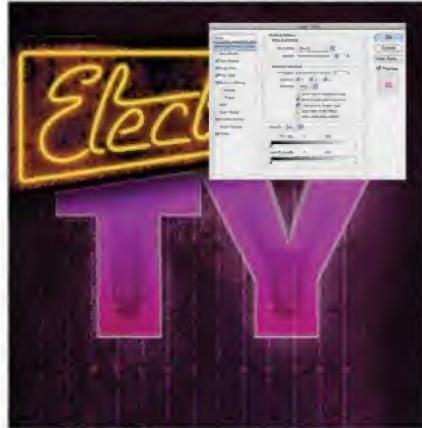

12 Neon lettering

Switch on the neon lettering group and make a copy of the lettering layer. On the top layer, set the following: Outer Glow (Soft Light, Opacity 86% with orange blend colour, Spread 14%, Size 145px), and Inner Glow (Source centre, Choke 53%, Size 13px). Now on the copy below, add an Outer Glow set to Overlay with an Opacity of 60%, a Spread of 11%, and a 30px Size, then go to the Filter menu and add a Gaussian Blur of 10px.

13 Glass/Perspex Lightbox effects

Make your first letters visible (in our case the 'TY') and go into the Effect menu. In Advanced Blending, reduce the Fill Opacity to 0%, then add an Inner Shadow (Blend mode Normal, filled with white, Distance 24px, Choke 0%, Size 60px, Noise 5%), Outer Glow (Soft Light filled with a vivid pink/purple, Opacity 100%, Spread 25%, Size 250px), Inner Glow (Overlay filled with white, Opacity 55%, Choke 30%, Size 250px, Quality Contour set to an inverted cone), Bevel & Emboss (set to Pillow Emboss, smooth, Depth 430%, Direction down, Size 45px, Gloss Contour double ring, Shadow mode filled with purple), Gradient Overlay set to Hard Light and filled with a mid-purple to magenta gradient, scaled to 80%. Finally, add a stroke of 10px, positioned inside, blend mode Screen, and opacity set to 65%. This will form the base of your glassy letters.
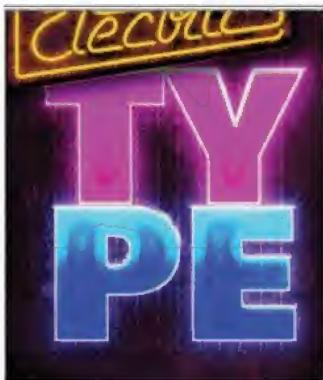
14 Duplicating effects

Now we want to add the same effects to the other letters, so copy the layer style and paste it into the 'PE' lettering layer. To change the colour, go back into the layer effects menu and change the shadow mode colour in Bevel & Emboss, and also the Gradient Overlay to shades of vivid blue. Again, this should result in a rather bold and realistic glassy look, if a little dull, so duplicate both the 'TY' and 'PE' layers to boost the colours and vibrance for a more hyper-real look. Finally, copy and merge both parts of your type, then set the resulting layer to Soft Light before applying the Plastic Wrap filter. You'll want to play around with the settings here until you find the result that works for your image.

15 Highlights

Next up, make a new layer and call it 'Highlights'. Set the layer to Screen and take a soft brush and paint in some random highlights. Vary the size of the brush, and concentrate on edges and corners, making some stronger than others. Don't be too regimented with these, as we want a more erratic feel to this particular step so it looks more natural.

16 Add a power source

To add another layer of realism, the next thing to do is add some power cables running from the letters and the neon sign. To do this, draw the cables with the Pen tool and apply a stroke of around 10px, then add the following effects: Drop Shadow (Opacity 75%, Distance 20px, Size 21px), Inner Shadow (Size 7px, Noise 10%), Bevel & Emboss (set to Pillow Emboss, Direction Up, Size 4px, Soften 5px), Colour Overlay of mid-grey, and a Stroke of 1px set to Outside, with an Opacity of 70%. To give the cable a dirty look, you can also add texture in the Bevel & Emboss effect by checking the standard Bubble pattern and reducing the scale to around 50%, then increasing its depth to around 750%. Add more power cables, taking care to draw realistically how they would sag and dip between fixings.
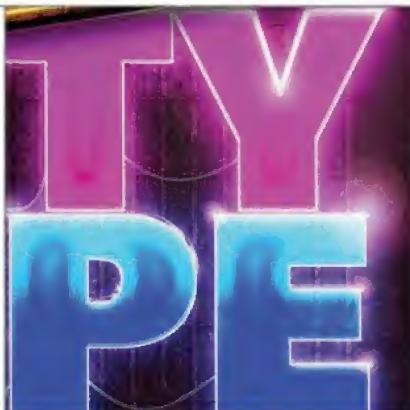
17 Add a Lens Flare

As much as the Lens Flare filter is a much-maligned effect, it still has its uses, and in a hyperreal illustration such as this it gives the right vibe. Create a new layer and call it 'Lens Flare'. Fill it with black and set the blending mode to Screen, reducing the Opacity to around 60%. Now go to Filter>Render>Lens Flare and click OK to select the 50-300mm zoom option. Now position it wherever you feel works best.
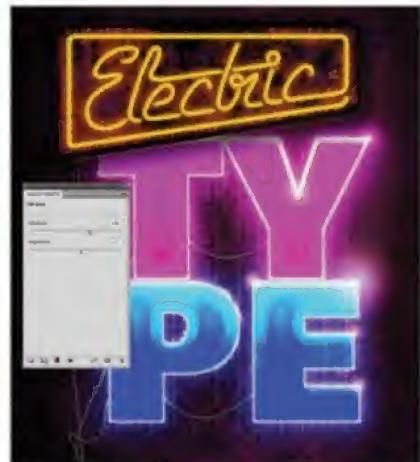
18 Give it a final boost

To finish, add a Vibrance adjustment layer and boost the colours and Vibrance level until you are happy. Of course, we always encourage you to experiment, so don't be afraid to try other adjustment layers and tweaks until you have achieved the result that you are happy with.

Refresh your frontend with Photoshop CS6

We share techniques and styles to maximise the impact of those landing pages, linking to your online portfolio

tools | tech | trends Photoshop CS6 **expert** Adam Smith

On the CD
• Onepager Swatch.aco
• Tutorial page template

Photoshop has always had a great knack for tailoring its toolsets to allow for cross-platform creation. From CG textures to grid layouts for web, Photoshop has forever strived to be the ultimate creative package, whichever end of the production scale it's being used.

With the launch of the CS6 beta, Adobe is promising its most inclusive production suite to date. So, of course, **Web Designer** is keen to see how v13.0's toolsets can be employed to further improve front-end web aesthetics.

We'll not only be concerning ourselves with the 'pretty bits' but also professional upgrades to existing tools, which look to advanced automated options to operate far more intuitively.

Sure, we've only cherry-picked some of the best bits to suit our web-design needs, but there's always more you can do in Photoshop, with much still to explore in this latest iteration. For more information you can head to **www.adobe.com**.

❝ With the launch of the CS6 beta, Adobe is promising its most inclusive production suite to date ❞

01 New interface

First establish the colour theme of your Photoshop interface, which is easily done by pressing Shift+Fn+F2 to lighten the Photoshop UI or Shift+Fn+F1 to darken interface elements. This ranges from Dark Gray to Light Gray. You can also apply these in the Preferences> Interface settings. Dark Gray is our preferred choice, as it creates a more immersive working environment.
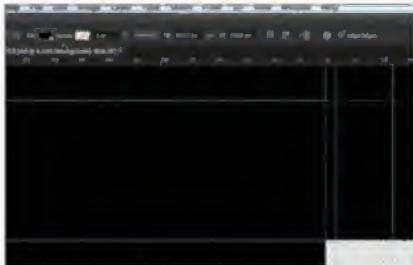
02 Shape tool settings

Of course, the Photoshop Shape tool is nothing new, but in CS6 it has been radically evolved. For instance, applying a Rectangle Shape tool to your layout grid, you'll notice that the above menu has changed, now with applicable Fill and Stroke options. These effects are live at all times, so are instantly editable.

05 Stroke settings

Use the Rectangle Shape tool to create a navigation bar at the foot of the first grid section. Select the Fill options, choosing Solid colour>Charcoal. This replaces your previous gradient, making the following effect clearer. Select Stroke, where you have a choice of three styles. We've applied a white solid line, at 0.10pt in size, with Align set to the outer shape icon.

07 Switch on the lights

We've applied a 100px Radius Rounded Rectangle Shape tool, with Gradient Fill options, to add our button to the navigation bar. Next, duplicate the background layer, Ctrl/right-click>Rasterize and go to Filter>Render>Lighting Effects. This is another option set that is much simpler to use than before, now with intuitive handle-based settings and full-screen renders.

03 Shape Fill options

Select your Swatches palette and then, from the fly-out menu, choose Replace Swatches>Onepager Swatch.aco, included on the cover disc. Next, click the Shape Fill options. The new options menu lets you apply solid colours, patterns and gradients, as seen here. We've set a Charcoal to Milky Gray colour scheme, from the Onepager Swatch swatch.

06 Cut in effects

Back in your navigation bar Shape Fill options, select Gradient again. Set your colour from Charcoal to Black. Open the layer Gradient Fill dialog and change the Scale to 200% before moving up your gradient to create an inner shadow. This effect, popular across the web, is now so much faster to apply with the new CS6 Shape options rather than with previous bitty layer style techniques.

08 In the Spot light

In your settings, set the light type to Spot, Color to Blue and its Intensity to 55. We've also increased the Hotspot, which is the central line area, to 95. Use the control handles to Scale Length and Scale Height as per the screenshot. Once you're satisfied, hit OK.

Hiding grid lines

Many times in this tutorial you'll want to scrutinise your effects close up. But if working with lined edges and gradient shapes, grid lines can distract. To make a quick comparison, turn these on and off by pressing Cmd/Ctrl+H.

04 Shape layer options

In the Shape Fill options you set the basics for your gradient, but by double-clicking your shape layer you can tweak effects further – in this case in the Gradient Fill dialog. Here we've evenly spread our gradient more by upping the Scale to 190%, with Style set to Linear, using the Move tool to reposition.

CS6 killer hidden features
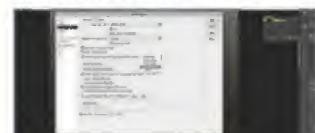
01_____Auto Save capabilities
PS now backs up work automatically, offering great peace of mind when working on important projects. Activate this option via Preferences>File Handling; it's settable to 10, 15, 30 or 60 minutes.
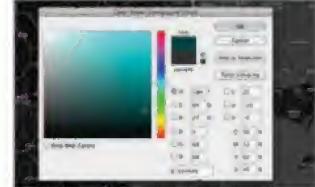
02_____Colours for web
The Photoshop Color Picker is the Mecca of colour settings, and now permits hex colours (accepting the hashtag) and three-digit value tones in the Color Values field. This minor tweak improves translation between Photoshop and your code editor later down the line.

03_____Perfect edges
Thankfully, no longer do we have to suffer rounding in our image or shape boundaries. These are much crisper in CS6 with the Align Edges option. This is activated in the options bar and must be enabled on a per-layer basis.

09 Filter settings

This applied lighting effect is to create a drop backlight. To finish the effect, reduce the layer opacity to around 50%, Fill to 70% and select Filter>Blur>Motion Blur; set the Distance to 1,350px. Next, apply Filter> Noise>Add Noise, setting the Amount at 12% and Distribution to Uniform. This will now give you a really good base from which to present your logo and text.

10 Lines and fonts

Understanding the Shape tool's options you can apply your text, and produce some interesting line design with the Stroke settings. We've applied the Line tool with a solid Milky Gray fill and Charcoal stroke, at a size of 5pt, with a dotted-line style. The next new option may not seem wholly relevant to web design, but when working with text and especially logo types the CS6 3D options can be very advantageous.

11 Another dimension

The 3D option isn't one that might immediately spring to mind for web design, but in Photoshop CS6 it's very easy to pick up and can be a great aesthetic asset. Select 3D>New 3D Extrusion from Selected Layer to open the 3D plane interface. You may just want a standard effect, so the Extrusion Depth in the Properties settings is useful, as is Bevel in the Cap settings.

12 3D controllers

The X and Y Move handles are also great for rotating, rescaling and repositioning items in your design. Each section of your green, blue and red arrow controls a single function, so it's best to scroll over and check out the screen prompts to see which does what. There's also an Infinite Light Source that can be repositioned once activated, so it's super-easy to sync with any prior lighting effects.
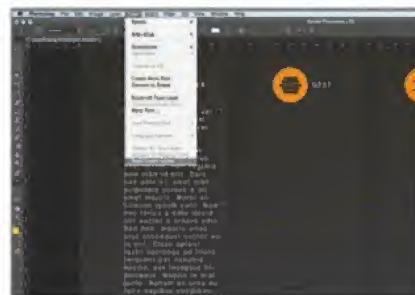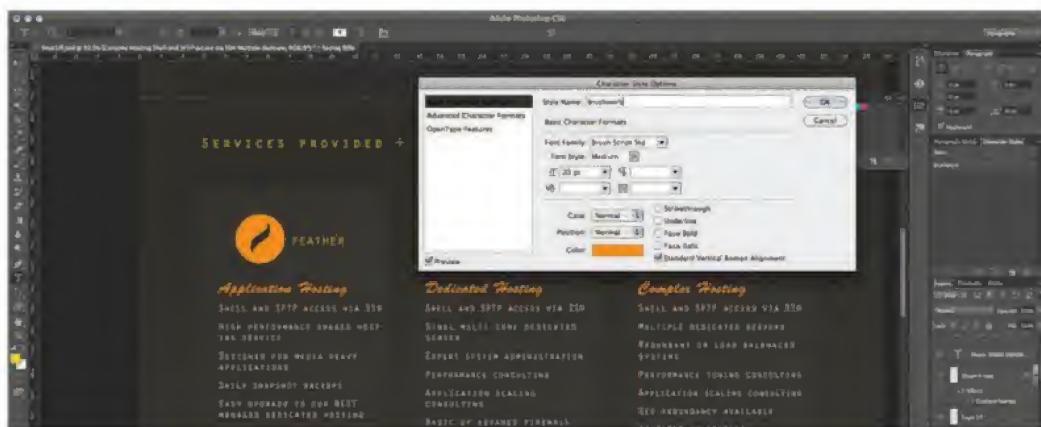

13 Ray-trace render

Choose the 3D>Render option, which – with ray-tracing technology – will produce a very high degree of visual realism. Such outstanding automation is frequent throughout all Photoshop CS6 tools, leading us to our next example: Paragraph Styles. With our visual hook established in the opener, we'll use this option to lay down our site's body text fast.
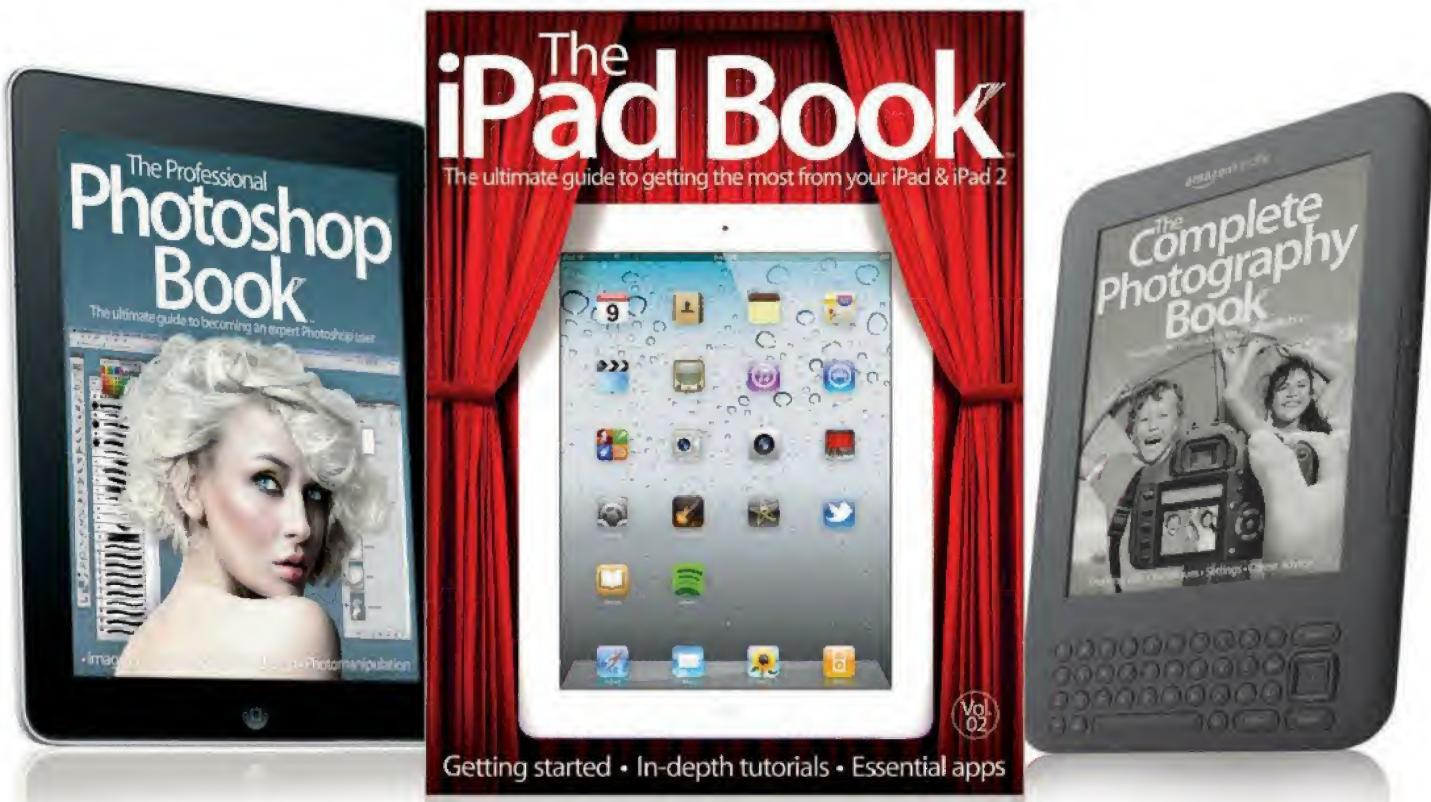

14 Type made easy

The Paragraph Styles options is easily activated through the Workspace preset option in the interface. Select the Type tool, dragging and creating an area, then select Type>Paste Lorem Ipsum. This throws down dummy text to work with. Next, Click on the Create a New Paragraph icon. Here you can set leading, indents, spacing after, plus many more structural options.
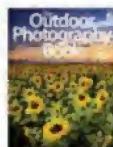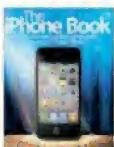
15 Perfect presets

All you need to do is experiment with the layouts you want, all saveable to presets. This enables web designers to repurpose text templates in existing and subsequent projects, simply by activating a preset and re-applying Paste Lorem Ipsum. Character Styles presets complement Paragraph Styles, for rapidly changing the font or colour of headings, logos, etc.

Learn in style

web workshop

A giant scrolling adventure

inspiration **www.intacto10years.com**

To celebrate ten years of inTacto, they have built a website that shows the journey they've been on for the last decade. The concept they came up with was to show a rocket taking off, flying through space and landing ten years on. As the browser loads the page, the browser window is positioned at the bottom of the page rather than at the top. As the user scrolls up to the top of the page through the content, there are many animated features including clouds, satellites and opening doors. The content that is navigated through shows the kind of technology that has changed over the last decade, finishing past our now ever prevalent multi-screen, multi-device web browsing.

Content and concept unite

We have seen a plethora of sites recently that focus their content around scrolling. Thankfully this one has enough unique features to make it stand out. When the site first loads, you find your browser located at the bottom – this makes sense when you think of the concept. The nature of having a rocket means that scrolling is suited to what you do with it, making it take off and fly gives it a decent meaning. If you are going to do scrolling effects, be sure that you have a good reason why, and make your content fit the concept.

Use original art ideas

One part of the site that anchors everything together is the unique illustrated style. There is a very clean vector look to everything, but there is also a very subtle texture placed over the top to stop it looking too clean. With every illustrated element in the same style, the look is very original.

Milestones
The journey is to celebrate ten years of inTacto, and as such there are yearly milestones highlighted down the left of the document.

Lift off
As you start to scroll, the top doors open and allow the rocket to fly upwards, with it locked to a fixed position on the screen while the content shifts around it.

Innovation
Along the way there are the major technological changes that have affected the company, such as different browser releases – and of course, the advent of smartphones.

From the bottom
When the document loads, the browser is positioned at the bottom of the document, rather than the top, so your spaceship can take off and fly upwards through the content.

Automatic
Users can choose to scroll themselves or push the large start button, which will automatically scroll up the page, taking them on an adventure into space.

Textures
Textures give the page a more unique look than just the clean vector shapes alone, and the illustration is excellent throughout.

10 years of inTacto

<comment>
What our experts think of the site

"Last December we created an eCard merging the end of year message and our tenth anniversary. We were inspired by some parallax sites and used the vertical view to tell a story about a metaphorical space trip through the digital universe, narrating the history of the Internet and ourselves over the last ten years."

Alejandro Lazos, creative director & co-founder

2 TECHNIQUE Recreating the rocket scroll

01 Add the jQuery

In your HTML document, link to the jQuery source code in the head section, then add the script as shown. This waits for the body to load and then scrolls to the bottom of our document. It positions the rocket div tag in the centre of the screen horizontally and fixes the div tag in place.

```
001 <script src="http://code.jquery.
com/jquery-latest.js"></script>
002 <script>
003 $(document).ready(function () {
004    window.scrollTo(0,3600);
005    var middle = ($(window).
width()/2);
006    $("#rocket").css({"marginLeft":
middle + "px"});
007    $('#rocket').addClass('fixed');
008 });
009 </script>
```

02 Set up the document

Now we add the CSS for the body document that sets the document height to 3,600px – you can make this whatever you wish. The background is then set to a gradient from light blue to dark blue. For brevity we have only added the WebKit browser prefix for this.

```
001 <style type="text/css">
002 body{
003   margin: 0;
004   height: 3600px;
005   min-height: 3600px;
006   padding: 0;
007   background-image: -webkit-linear-
gradient(bottom, rgb(105,221,250) 0%,
rgb(43,119,201) 44%, rgb(16,9,66) 100%);
008 }
```

03 CSS for the rocket

Now we add the CSS for the rocket div tag. We position this absolutely on the screen so that it is 500 pixels from the top; the padding is set up, and the width and height. Finally this is given a background colour just so that it is visible on the screen.

```
001 #rocket {
002   position: absolute;
```

```
003   top: 500px;
004   padding: 5px;
005   width: 100px;
006   height:200px;
007   background-color:#FC0;
008 }
```

04 Fix the rocket

Here we add the code that fixes the position of the rocket at 500px from the top, regardless of where the document is scrolled. This is the key CSS that keeps the rocket in the same place in the view. You can use this to lock menus on the screen as well.

```
001 #rocket.fixed {
002   position: fixed;
003   top: 500px;
004 }
005 </style>
```

05 Add the rocket div

Now in the body section of the code, add the div tag for the rocket. You can add a rocket image in here if you like. Now save the document and test it in the browser to see the rocket remain fixed while the background gradient changes as you scroll.

```
001 <div id="rocket">
002    Put rocket graphic here!
003    </div>
```

Movement
Locking a rocket to scroll up the screen as the background content changes is easy with jQuery and CSS. You can also add an auto scroll feature like inTacto.

3 TECHNIQUE

Recreating the graphic style

Creating a unique graphic style can really enhance any website. The inTacto site uses vector graphics with textures to dirty up the clean shapes to create the look; here we show you how to do this.

01 Use Photoshop

When you have created your clean vector artwork in a package such as Illustrator, open the image in Photoshop. Here you can layer up textures to give the vector artwork a much more unique styling.

02 Get the texture

Do a search on the Internet for 'texture' and look for something that might give you a good result. Drag the image from the web browser straight onto your rocket in Photoshop and it will appear on a new layer above the rocket.
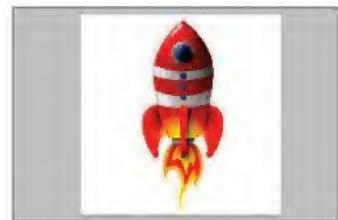
03 Change the blending mode

Now look in the layer panel and change the blending mode of the texture layer to Color Burn. You can turn off the visibility of the background layer as well, ready for exporting as a transparent PNG image.

web workshop

Single-page navigation and style

inspiration **www.baeckerei-zibuhr.de**

The single scrolling page is very much in vogue at the moment, with a host of great sites adopting the style and adding their own unique twist. The concept of a single page means that users can get access to all the content without jumping from page to page and back. By its very nature, the single page design needs, or at the very least has to take into consideration, navigational elements, image optimisation and its layout. Typically, a single page design will be broken down into a few different sections which are accessed via a fixed menu header. To keep the navigation a little more user-friendly, a 'back to top' link can be added near the bottom of each section to save the user from unnecessary scrolling.

1 RESOURCE
Online CSS3 tool

There is a host of online CSS tools out there that can help web designers produce quick code ready for use on a selected site. CSS3, Please! describes itself as 'The Cross-Browser CSS3 Rule Generator'. The site is effectively one huge stylesheet that manages to incorporate all the popular CSS3 properties including border-radius, box-shadow, RGBA, transform, text-shadow, background size and box-sizing. These are incorporated into classes demonstrating exactly what can be achieved with the properties. Users can change the values, see a live preview of the code and copy it into a stylesheet.

IE and Google Fonts

The Lobster font is part of the Google Web Font library and can be integrated into a page via a link ref or @import reference. To ensure the best display in IE make the stylesheet <link> tag the first element in the HTML <head> section. Add before any <script> tags, as these will not display until it has loaded.

Google Web Fonts

Google Web Fonts are in action here, with the popular Lobster font making its presence felt across the page.

Going up

Navigation across a single page can use anchors to send the user back to the top of the page, or in this case 'nach oben'.

Guestbook

The 'Unser Gästebuch' link initiates a pop-up window that uses a lightbox gallery effect while retaining the circular theme.

Rollovers

The menu text and smaller circular elements use rollover effects to emphasise the links and the content of the selected item.

Organic textures

The background textures create the canvas for the page, and natural cloth textures have been used to enforce the site's message.

Natural textures

<comment>
What was the inspiration behind the site?

"As one of its selling points, the Zibuhr Bakery produces its goods from scratch on-site. To emphasise the core purpose of the business, the use of natural textures such as sack cloth are very effective. This immediately suggests that the bakery brings the core ingredients to its store to produce their own freshly baked products."

Steven Jenkins, Features Editor, Web Designer

2 TECHNIQUE CSS3 circles

01 Create class

The border-radius property is typically used to create rounded corners on a chosen element (such as softening the edges on a square or rectangle), but it can be used to good effect when you want to create a perfect circle. To get the process going, we first must create a new class called 'circle'. This will allow the values to be applied to a multitude of tags within a page, always getting the same result. Now add the desired height and width of the circle.

```
001 .circle {
002 height: 400px;
003 width: 400px;}
```

02 Add borders

Border-radius adds a radius to the top-left, top-right, bottom-left and bottom-right extremes of a chosen element. The value determines the curve of the radius. For example, if the height and width are 400px each, the border-radius needs to be 200px to create a perfect circle. Effectively, the border-radius is always going to be half the size of the height/width.

```
001 .circle {
002 height: 400px;
003 width: 400px;}
004 border-radius: 200px;}
```

03 Background colour

To make the circle and match it to the current colour scheme, the circle class will need a background colour. To add a colour, the background property is called into action. Simply add it to the class and the hexadecimal colour code as the value. Now apply the class to any element to be styled as a circle.

```
001 .circle {
002 height: 400px;
003 width: 400px;
004 border-radius: 200px;
005 background: #9C3}
```

04 Add a border

A CSS circle can be enhanced with a border, image and text. When adding a border the edges will flatten. To compensate, the border-radius property needs to be expanded by the same amount in px as the border. Add a 10px border and 10px to the border-radius.

```
001 .circle {
002 height: 400px;
003 width: 400px;
004 border-radius: 210px;
005 background: url(image.jpg)
006 float: left;
007 border: 10px solid #666;}
```

3 Inspiration Let them search cake

The Zibuhr Feinbäckerei is a bakery that produces a host of goodies including cakes, pastries and baked goods. It is these elements that have provided the inspiration for the persona of the page. The background textures use natural elements such as sack cloth and hessian. The colour scheme adopts colours from the baking process and throws a complementary colour to add a little zest. To complete the baking extravaganza, a bevy of action shots of baked goods and caffeine drinks are added to all sections of the page to add a little energy and flavour.

4 TECHNIQUE
Fixing the navigation

01 Holding tag

A fixed header, by its very definition, is a header that is fixed into position meaning it does not scroll with the general page content. This makes it the ideal component to house the navigation, ensuring users are always aware of where to get to a new page. Create a new div tag or use a semantic tag eg nav and set its position to fixed.

```
001 nav {
002 height: 60px;
003 width: 100%;
004 position: fixed;}
```

02 Integrate graphics

A navigation menu needs to be distinct, ensuring users know exactly where it is. The Zibuhr bakery site uses a background image that incorporates a drop shadow to distinguish between the menu background and the general background texture. To add, simply use the background property and add the URL of the image. The image can be a single slice of the background image, repeated horizontally.

```
001 nav {
002 height: 60px;
003 width: 100%;
004 position: fixed;
005 background: #0C6
url(images/bgnav.jpg)
repeat-x;}
```

03 Add menu

With the nav tag in place, the next step is to create the menu using an unordered list. A set of ul tags are populated with a list tag for each item to be included. Five items equals five sets of opening and closing li tags. Each list tag is then floated to the left, and left-padding added to make room for a background image (if desired).

```
001 nav ul{
002 margin: 0px;
003 padding: 0px;}
004 nav li {
005 margin: 0px;
006 padding: 0px 10px 0px 20px;
007 float: left;
008 background: url(images/
arrow.png) no-repeat; }
```

Design Cloud

Site logos

A well-crafted logo is memorable and offers instant impact. Here we present 24 examples of the art in action.

{web developer;

Dedicated to the code-heavy side of modern online design

NEW 16-page section

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Build HTML templates in JavaScript using Mustache.js, a logic-free JavaScript template that offers code reuse, modularity and maintainability. **Page 88**

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Supercharge your CSS with Sass

Discover how to add more power, elegance and manageability to stylesheets with the CSS3 extension SASS. **Page 82**

feature

Supercharge your CSS with Sass

Sass

Tired of rifling through a cluttered and gargantuan stylesheet? Then give your CSS some attitude with Syntactically Awesome Stylesheets

As web designers and developers, we love CSS. We really do. It's just that, every now and again, it can get on our nerves.

We've all been there: that moment when you open up a stylesheet to add a simple new rule, only to spend three minutes scrolling through the thousands of lines figuring out where to put it, another two minutes locating the light blue colour you used before, then a few more trying to refactor the declaration when you realise you've copied a dozen lines from an almost-identical block somewhere else.

At times like this, a developer could be forgiven for glancing skywards and quietly muttering: "Surely, somewhere, there's a better way?"

The better way

Beginning way back in 2007, some very clever developers decided to take matters into their own hands and give our old friend CSS a bit of a makeover. The resulting library is known as Sass (Syntactically Awesome Stylesheets).

Of course, it was impossible to simply rewrite the rules of CSS: the new syntax wouldn't be supported in older browsers, so no one would be able to use it. Instead, the developers of Sass decided to make a language that would compile into CSS. That is, you write your styles in Sass, run them through a little piece of software, and bam – out pops plain old CSS.

That might sound like a lot of work just to generate a CSS file. What do you get for your troubles? Quite a lot, actually. But before we dive in and have a look at everything Sass has to offer, we'll first need to install it and learn how to use it to create CSS files.

Installing Sass

In order to start writing Sass, you'll first need to install the script that will compile your stylesheets into CSS. Sass is written in Ruby, so you'll need Ruby to run it. In Apple's OS X, Ruby is installed by default, so you don't need to do anything else. On Windows, there are a number of ways to install Ruby, but the easiest is to use RubyInstaller, available at **rubyinstaller.org**.

Once you've got Ruby, it's time to install Sass. Sass is a gem, Ruby-speak for a self-contained package or library, so we use the gem command to install it. Open your terminal (cmd.exe on Windows, Terminal.app on OS X), and type:

```
001  gem install Sass
```

Press Enter/Return, and you'll be faced with something along the lines of:

```
001  Successfully installed Sass-3.1.15
002  1 gem installed
```

> **❝ At times, developers can be forgiven for glancing skywards and muttering: "Surely there's a better way?" ❞**

It's a cinch to create a colour theme for a website using the various colour functions available in Sass

> ❝ **A feature that makes it easy to start using Sass in existing projects, is that its syntax is a superset of CSS** ❞

```
003 Installing ri documentation for Sass-
3.1.15...
004 Installing RDoc documentation for Sass-
3.1.15...
```

Now that Sass is installed, you'll be able to obtain access to it via the command line. To receive an overview of the available options, type:

```
001 Sass --help
```

and hit enter. The resulting output might look rather intimidating, but don't worry. For our purposes, the important bit is the code situated right at the top of everything you see:

```
001 Usage: Sass [options] [INPUT] [OUTPUT]
```

INPUT and OUTPUT are the filenames of the Sass file you want to compile, and the CSS file you want to generate respectively. Let's make use of this and compile our first Sass stylesheet.

Your first Sass file

One great thing about Sass, and a feature that makes it incredibly easy to start using in existing projects, is that Sass's syntax is a superset of CSS. Put another way, that means that all CSS syntax is contained inside Sass, and therefore any valid CSS file is also a valid Sass file.

So, in order to write your first Sass file, you simply need to write a CSS file. Let's make the simplest possible stylesheet:

```
001 h1 {
002   color: rgb(0, 200, 100, 1);
003 }
```

Save that in a file called, let's say, 'green.scss'. The SCSS extension indicates a Sass file.

Now, from the command line, run this command in the directory where your CSS file is located:

```
001 Sass style.scss style.css
```

This simply tells Sass to read your SCSS file and output a CSS file in the same directory. Open that file, and witness the (not terribly impressive) magic: Sass has copied your green heading rule from the SCSS file to the CSS file.

Variables

So far, Sass has done strictly nothing to make our lives easier. As a matter of fact, if your project's stylesheet is really as simple as the one above, you'd have no reason to use Sass at all. However, as you're well aware, real-life stylesheets can get a lot hairier than that.

Let's say that, after a few hours working on your project, you've gone and used that same green colour in a few different places:

```
001 h1 {
002   color: rgb(0, 200, 100, 1);
003 }
004
005 aside li {
006   color: rgb(0, 200, 100, 1);
007 }
008
009 footer {
010   background-color: rgb(0, 200, 100, 1);
011 }
```

Now, every time you want to use that colour, you need to remember exactly what it was, and if ever you wanted to change it, you'd need to scour your files for everywhere you used it.

Sass comes to the rescue with variables. Just like in JavaScript or other programming languages, variables in Sass store simple values for reuse later. Don't worry if you've never done any programming though: Sass variables are dead-simple to use.

Instead of repeating that colour throughout the CSS file, we'll just declare it at the top, in a variable:

```
001 $heading-color: rgb(0, 200, 100, 1);
002
003 h1 {
004   color: $heading-color;
005 }
006
007 aside li {
008   color: $heading-color;
009 }
010
011 footer {
012   background-color: $heading-color;
013 }
```

Variables in Sass start with the dollar sign ($), and can be used anywhere in your files. In the first line of the above example, we're assigning a value to the variable. Here, it's a colour, but it could just as easily be a numeric value (such as 10px or 100%) or any value you might use for a CSS property (like red, left, or inline).

Anywhere in your Sass file that you refer to the variable, its value will be substituted in when you compile the

Functions allow you to manipulate the contents of your variables without having to create whole new ones

stylesheet. To prove it, run Sass on this new stylesheet and have a look at the output CSS file. As expected, each of the rules have been assigned the hex code corresponding to our green colour.

Functions

Using variables in Sass can definitely help make it easier to maintain large stylesheets: now, if we decided on a slightly different hue of green, we'd only need to change it in one place at the top of the file.

However, where variables become really useful (and fun) is when we use them in functions. These allow you to manipulate the contents of your variables without having to create whole new ones.

Let's say you wanted your subheadings to be a slightly darker shade of green. Instead of coming up with a new colour value, you can just write:

```
001 h2, h3 {
002    color: darken($heading-color, 10%);
003 }
```

The darken() function takes a colour and, well, darkens it by the provided percentage. In this case, Sass will give us a green that's 10% darker than $heading-color (this turns out to be #00954b).

Of course, you needn't stop at darkening your colours: Sass also provides the lighten(), saturate(), desaturate(), complement(), and a number of other functions for working with colours. For the more programming-oriented, there are also functions for working with numbers, strings, and lists. You can get a full list of the available functions on the Sass website at bit.ly/6OCOSS

When your variables are numeric, you can also manipulate them mathematically. For example, many designers like to keep the elements on a page proportional by basing them on a baseline measurement, let's say, for argument's sake, 16px:

```
001 p {
002    font-size: 16px;
003    margin-bottom: 16px;
004 }
005
006 h1 {
007    font-size: 48px;
008    margin-bottom: 48px;
009 }
010
011 h2, h3 {
012    font-size: 32px;
```

```
013    margin-bottom: 32px;
014 }
```

With Sass, you can simplify this quite a lot by doing a little bit of mathematics:

```
001 $font-size: 16px
002
003 p {
004    font-size: $font-size;
005    margin-bottom: $font-size;
006 }
007
008 h1 {
009    font-size: $font-size * 3;
010    margin-bottom: $font-size * 3;
011 }
012
013 h2, h3 {
014    font-size: $font-size * 2;
015    margin-bottom: $font-size * 2;
016 }
```

Any mathematical operation (+, -, %, or *) can be performed on any numerical value in your CSS, be it in px, %, em, or what have you.

Nesting

So far, Sass has allowed us to write more expressive styles using a clearer, more natural syntax. But another area where Sass really shines is making stylesheets much more compact and readable.

It accomplishes this by allowing you to nest style blocks, and thus avoid a lot of duplication.

For instance, look at this pretty common-looking block of CSS for a sidebar navigation menu:

```
001 #sidebar {
002    float: right;
003    margin-left: 15px;
004    padding: 10px 20px;
005    width: 250px;
006    background: #f4f39e;
007 }
008
009 #sidebar ul {
010    list-style-type: none;
011    padding-left: 10px;
012 }
013
014 #sidebar ul li {
```

Give Sass a try online before downloading the latest release at sass-lang.com/try.html
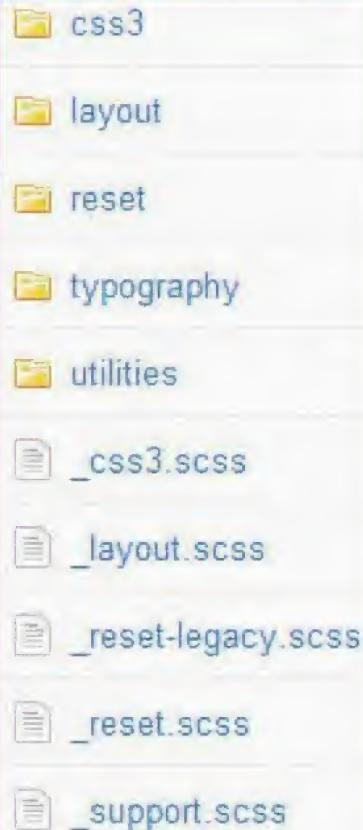
Keeping an eye on our Sass files

Working with Sass, you'll inevitably trip up by forgetting to re-compile the CSS between changes. This can be confusing, as you switch back and forth between your editor and your browser wondering why your edits aren't being reflected. Fortunately, there's an easier way - you can tell Sass to watch your files and regenerate the output CSS every time you make a change:

```
001 Sass --watch style.scss:style.css
```

Leave that command running in your terminal while you work, and you can forget all about the middleman and get on with writing your styles.

```
css3
layout
reset
typography
utilities
_css3.scss
_layout.scss
_reset-legacy.scss
_reset.scss
_support.scss
```

This list of some of the files in the Compass framework (built with Sass) illustrates how complex CSS can be made much more manageable by separating it across multiple files

```
015    font-weight: bold;
016 }
017 #sidebar ul li a {
018    color: #333;
019    text-decoration: none;
020 }
```

Chances are you've written something like that if you've been working with CSS for any length of time. You may even be so desensitised as to not notice how redundant what you've written is. Think about it: you've written '#sidebar' four times, just to apply some basic styles to basic elements in one part of the page.

In Sass, you can instead write:

```
001 #sidebar {
002    float: right;
003    margin-left: 15px;
004    padding: 10px 20px;
005    width: 250px;
006    background: #f4f39e;
007
008    ul {
009      list-style-type: none;
010      padding-left: 10px;
011
012      li {
013        font-weight: bold;
014        a {
```

```
015          color: #333;
016          text-decoration: none;
017        }
018      }
019    }
020 }
```

It should be fairly obvious what this does: any block of CSS nested inside another block will be applied by combining the selectors from both blocks. Not only is this code a little more concise, avoiding all those repeated selectors, it's also easier to see at a glance what's going on, and which of the styles are related to each other.

Mixins

Mixins are probably Sass's most popular feature. Where variables allow single values to be reused throughout your stylesheets, mixins allow entire chunks of code to be reused with a single quick line.

Let's say you have a set of styles that often go together, like the border-radius, background, and box-shadow applied to these div elements:

```
001 div.sidebar-box {
002    border-radius: 5px;
003    box-shadow: 2px 2px 2px #CCC;
004    background-color: #F4F39E;
005    padding: 10px;
006    margin: 10px;
007    ...
008 }
009
010 div.author-details {
011    border-radius: 5px;
012    box-shadow: 2px 2px 2px #CCC;
013    background-color: #F4F39E;
014    padding: 5px;
015    margin: 10px 0;
016    ...
017 }
```

We all know presentational styles are bad, so creating a .rounded-box class to add to various elements in your HTML is a no-no. And something generic like .info-box will still end up cluttering your markup with tons of extra classes if you apply the same strategy more than a few times.

So, as more rounded boxes are added, you copy-paste and copy-paste those lines of code again and again, until they're scattered everywhere throughout your code.

> ## " We know presentational styles are bad, so creating a .rounded-box class to add to elements in your HTML is a no "

With Sass mixins, this problem is easy to solve: it's just a simple case of adding the following:

```
001 @mixin rounded-box {
002    border-radius: 5px;
003    box-shadow: 2px 2px 2px #CCC;
004    background-color: #F4F39E;
005 }
006
007 div.sidebar-box {
008    @include rounded-box;
009    padding: 10px;
010    margin: 10px;
011    ...
012 }
013
014 div.author-details {
015    @include rounded-box;
016    padding: 5px;
```

> ## 66 Maybe this is the perfect opportunity to tidy up that monster of a stylesheet you've added to for three years? 99

```
017    margin: 10px 0;
018    ...
019 }
```

```
001 @import "footer";
002 @import "profile";
```

Import

The final Sass feature we'll cover is extremely helpful for when your project grows above a certain size, and your once neat and tidy CSS has become unwieldy.

Traditionally, web designers have faced a bit of a dilemma when it came to organising CSS across multiple files. On one hand, each CSS file that must be downloaded from the server makes your site that much slower for your visitors, so it's best to have as few files as possible. On the flip side, organising your code when it's all crammed into one super-long file can be time-consuming at best and infuriating at worst.

Sass gives you the best of both worlds: keep your files separate for development purposes, but compiling them all into one file when it's time to set your site live.

In Sass, this is done with the @import directive. Any other files referred to by @import in your Sass files will be automatically included by the compiler. You don't need to specify the extension of the files, so they can be either other Sass files or plain CSS ones:

These two lines of code will import all of the different styles, variables, and mixins from the footer and profile files into your current file.

The Sass developers recommend that when you come to name sub-stylesheets, begin with an underscore (for example, '_footer.scss' and '_profile.scss') to distinguish them from 'master' stylesheets that are meant to be compiled and included on a page. Sass understands this fine, and will import the file whether it's called 'footer.css', 'footer.scss', '_footer.css', or '_footer.scss'.

Time to Get Sassy

This article is only a brief overview of the functionality of Sass. The language has many features we haven't had time to cover here, and the best place to learn more is on the Sass website at **sass-lang.com**.

However, after reading this feature you now know enough to begin experimenting with Sass and playing with it in some of your existing projects. Maybe this is the perfect opportunity to tidy up that monster of a stylesheet you've been adding to for three years?

Further reading Expand your knowledge with these must-read references.
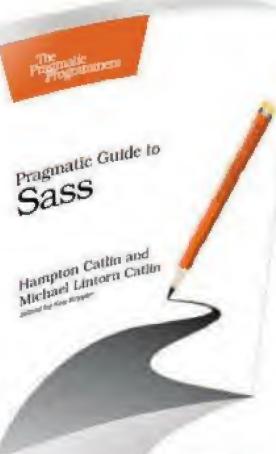
Pragmatic guide to Sass $25
pragprog.com/book/pg_Sass/
pragmatic-guide-to-Sass
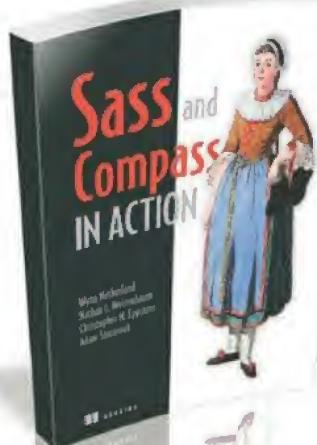
Sass and Compass in Action £29.99
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Create templates with Mustache.js

Build HTML in JavaScript using HTML!

tools|tech|trends Mustache.js, Code Editor
expert Matt Gifford

On the CD
• Step code
• Completed project

I f you've ever written HTML apps that make use of JavaScript to manipulate, read and write content to the DOM, you may have noticed that you write a lot of fragmented code programmatically. Whether you are concatenating variables on HTML strings, replacing strings or inserting generated code into markup, it runs the risk of getting messy, quickly.

This makes your code harder to write and maintain. We also want to remove any possible issues of overly tight coupling between the UI and the data provided. We can address this by decoupling the HTML markup and data with Mustache.js, a logic-free JavaScript template that doesn't rely on procedural statements.

In this tutorial we will take a look at the core basics of using Mustache.js in our application to assist in code reuse, modularity and maintainability. We will create a simple widget that calls the Twitter search API to return a JSON structure that we can use to populate our templates and easily output the data.

01 Get your mustache

Before we begin creating our templates, we need to get a copy of the Mustache JavaScript library. Download the latest release from the URL below and extract the 'mustache.js' file into the assets/js directory in your project location. Include the reference before the closing body tag in the 'index.html' file included in the project.

```
001 github.com/janl/mustache.js
```

02 Add jQuery

We're also going to be making use of the jQuery library to perform an AJAX request and to reference some DOM elements within our page. Make sure you include a reference to the hosted jQuery library above the mustache. js file in the code editor window. You can also use a local copy if you would prefer to do so.

```
001 <script src="http://code.jquery.com/jquery.min.js"
type="text/javascript"></script>
```

03 Get the response

We're going to make use of the Twitter API to obtain a JSON feed, which we'll use to provide our template with information to render. Create a new script tag block and create a call to the getJSON method, pasting in the Twitter search URL. We'll ask for five records to be returned for the provided query parameter.

```
001 <script type="text/javascript">
002 $(document).ready(function() {
003   $.getJSON("http://search.twitter.com/search.json?callback=?
&q=coldfumonkeh&rpp=5", function(data) {
004   )};
005 )};
006 </script>
007
```

04 Refine data

The returned JSON response contains a lot of information, but we're interested in getting direct access to the results array. Create a new JavaScript object called 'twitResp', set the display node to true and the query and results nodes to read from the returned data object.

```
001 var twitResp = {
002   display: true,
003   query: data.query,
004   results: data.results
005 }
```

05 Handle no records

Below the twitResp data variable, let's add the following code to check for the existence of results from the search. If there are no records returned in the feed, we don't want to attempt to output our list. We'll set the display Boolean value to false if we encounter this.

```
001 if(twitResp.results.length < 1) {
002     twitResp.display = false;
003 }
004 }
```

06 Partially yours

Mustache templates can handle partials, which are a superb way of separating reusable or key sections of layout from the template itself. Create a new JavaScript object variable called partials, which will hold the various partials we want to use - in this case, the header and footer for our widget.

```
001 var partials = {
002   header: '<div id="header">Twitter Feeds My Mustache</
div><div class="recent_tweets">',
003   footer: '</div>'
004 };
```
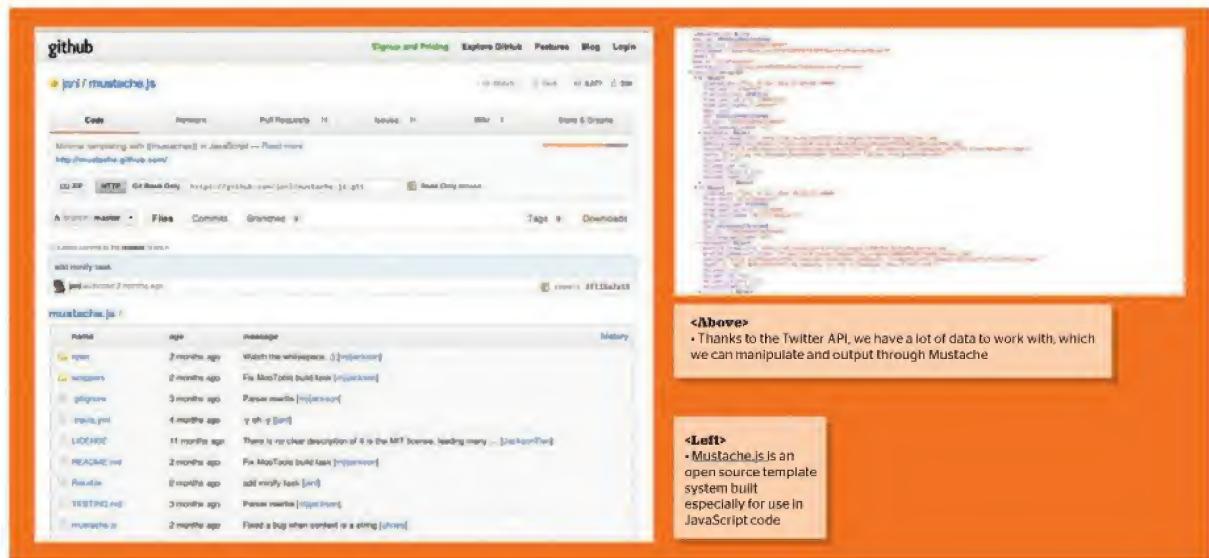
Create template

07 Let's start to create our basic Mustache template. We could write this as a JavaScript variable; in this example we'll use a separate defined template block. Create a new script tag block with the id attribute set to template and type attribute set to text/template. Include the first Mustache variable to output the query value from the data.

```
001 <script id="template" type="text/template">
002
003 {{query}}
004
005 </script>
```

Render to HTML

08 We want to send our data into the template for rendering and display on the page. Firstly we'll reference the template itself to get the content. We'll send the template, the data and the partials into Mustache via its to_html() method, which we'll set as the content for a div element called contentArea.

```
001 var template = $('#template').html();
002 var html = Mustache.to_html(template, twitResp, partials);
003 $('#contentArea').html(html);
```

Set container

09 We have defined where we want our populated template to be placed, so let's add the required div element into our page. Place the code between the body tags in the HTML document, making sure that the id attribute matches the one specified in the previous JavaScript code.

```
001 <div id="contentArea"></div>
```

Add partials

10 Let's amend our template to include the header and footer partials. Partials are clearly identifiable and differ from standard Mustache variables as

they are referenced using a > sign. Include our partials in the template above and below the query placeholder. Partials are rendered at runtime, so we could do weird and wonderful things with them.

```
001 <script id="template" type="text/template">
002 {{>header}}
003
004 {{query}}
005
006 {{>footer}}
007 </script>
```

Looping results

11 Amend the template to include the following code, which will display a list of returned tweets. Here we can use a section to loop and create the list items if we have results to read from. The pound and slash signs define a section, similar to an open and closing tag block.

```
001 <div id="recent_tweets">
002 <ul class="twitter">
003 {{#results}}
004    <li class="tweet"><li>
005 {{/results}}
006 </ul>
007 </div>
```

Template functions

12 We can amend our data structure to include functions, which we can then call as Mustache placeholders. Create a new node called userImg which, as a function, will create and return an image tag and will apply the user's profile image URL and the user name as the alt text.

```
001 results: data.results,
002 userImg: function() {
```

Create templates with Mustache.js

‹Top left, anti-clockwise›
• Passing the text through our custom function, we can now replace all username and hashtag instances with links
• With no records to display, our template will output our chosen partial as requested
• Our complete Twitter widget built and rendered using Mustache templates

```
003    return '<img src="' + this.profile_image_url +
004        '" title="' + this.from_user + '" />';
005 }
```

13 Function arguments

We are also able to create functions that accept parameters within the actual Mustache template itself. Insert a new node into the data structure called 'userLink'. This will accept a user_id value as the argument, and the second parameter is a special rendering function that uses the current view as its view argument.

```
001 userLink: function() {
002    return function(user_id, render) {
003      return '<a href="<a href="http:\/\/www.twitter.com\/' +
render(user_id) + '" target=\"_blank\">@' + render(user_id) + '</
a> ';
004    }
005 }
```

14 Add tweet text

Add the following code between the list item tags we previously added to the template. Here you can see we are calling the userLink function and passing the user id parameter between the sections. The userImg placeholder differs from the others as it is wrapped in three parentheses instead of only two. If we only used two, it would display the actual returned string and not render the HTML.

```
001 <p><span class="user">{{{userImg}}}</span>{{#userLink}}
{{from_user}}{{/userLink}} {{text}}</p>
```

15 Parse text

Although the tweet text is correctly displayed, let's change the template to ensure that all user names and hashtags are converted into links for users to follow. Create a new node in our data structure called parsedText,

which will be a function to re-render the provided text and output it with the required changes.

```
001 parsedText: function() {
002    var tweetText = this.text;
003    var parsedText;
004
005    return parsedText;
006 }
```

16 Replace names

Firstly, we want to replace all instances of Twitter user names with the relevant link to that user's Twitter profile. We'll use a regular expression to find each instance of a username and convert it into the HTML link. Place this within the parsedText function we have just created.

```
001 parsedText = tweetText.replace(/(^|\s)@(\w+)/g, function(u) {
002    u = u.trim();
003    var username = u.replace("@","");
004    var newLink = ' <a href="http:\/\/www.twitter.
com\/'+username+'" target=\"_blank\">@'+username+'<\/a>';
005    return newLink;
006 });
```

17 Replace hashtags

Now let's handle any occurrences of hashtags in the returned tweet text. Once more, we'll use a regular expression to find them all and replace them with a link to allow the user to search Twitter for more instances. Place this below the name replacement code within the parsedText method.

```
001 parsedText = parsedText.replace(/(^|\s)#(\w+)/g, function(h) {
002    h = h.trim();
003    var hashtag = h.replace("#","");
004    var newLink = ' <a href="http:\/\/search.twitter.com\/
```

```
search?q='+hashtag+'" target=\"_blank\">'+h+'<\/a>';
005    return newLink;
006 });
```

18 Revise text

Now that we have the ability to revise our text before we output it, we need to amend the template to use the function instead of the text value returned directly from the data feed. Replace {{text}} with {{{parsedText}}} and notice that we once more use the triple parentheses to render the output as HTML, as it may include tags.

```
001 <p><span class="user">{{{userImg}}}</span>{{#userLink}}
{{from_user}}{{/userLink}} {{{parsedText}}}</p>
```

19 Positive display

As we have seen, sections will display if the key exists and the value is not null, undefined or false. We can use the display value we set earlier to ensure that our list is only rendered if we have records to show. Wrap the code block in the template in a section that will read from the display value.

```
001 {{#display}}
002 <div id="recent_tweets">
003
004 </div>
005 {{/display}}
```

20 Inverted sections

We can make use of inverted sections in Mustache to handle the possibility that we have no records to display. An inverted section starts with an ^ sign, and anything within these tags will only be rendered if the value of that section's tag is null, undefined or false.

```
001 {{^display}}
002
003 {{/display}}
```

21 Nothing to declare

We want to output something to the user to inform them that we have no records or data to show them. We could simply include some HTML here, but as we are making use of a template system let's use a partial, identified by the > sign. Include this between the inverted section tags.

```
001 {{>noconversations}}
```

22 Final partial

With the inverted section written and the noconversations partial included, we now need to write the content for the partial and include it into the partials JavaScript object. As partials are rendered on runtime, we can include references to nodes from the data structure for inclusion, as we have here with the query value.

```
001 var partials = {
002    header: '<div id="header">Twitter Feeds My Mustache</
div><div class="recent_tweets">',
003    footer: '</div>',
004    noconversations: '<p>Sorry, there are no
conversations to show you for {{query}}.</p>'
005 };
```

Code library
In detail

Let's take a closer look at some of the methods available to use within Mustache to render data.

```
001 var twitResp = {
002    display: true,
003    query: data.query,
004    results: data.results,
```

Building up our custom data structure, we first obtain the actual results from the returned response received.

```
001    userLink: function() {
002      return function(user_id, render) {
003        return '<a href="<a href="http:\/\/
www.twitter.com\/' + render(user_id) + '"
target=\"_blank\">@' + render(user_id) + '</a>
';
004      }
005    },
006    userImg: function() {
007      return '<img src="' + this.profile_
image_url + '" title="' + this.from_user + '"
/>';
008    },
```

Our custom Mustache functions are defined as part of the data structure to access individual values from the response.

```
001    parsedText: function() {
002      var tweetText = this.text;
003      var parsedText;
004      parsedText = tweetText.replace(/
(^|\s)@(\w+)/g, function(u) {
005
006        var username = u.replace("@","");
007        var newLink = ' <a href="http:\/\/
www.twitter.com\/'+username+'" target=\"_
blank\">@'+username+'<\/a>';
008        return newLink;
009      });
010
011      parsedText = parsedText.replace(/
(^|\s)#(\w+)/g, function(h) {
012        h = h.trim();
013        var hashtag = h.replace("#","");
014        var newLink = ' <a href="http:\/\/
search.twitter.com\/search?q='+hashtag+'"
target=\"_blank\">'+h+'<\/a>';
015        return newLink;
016      });
017
018      return parsedText;
019    }
020 };
```

Looping over the array, we can reference the values to insert into the database by the array index number.

❝ Inserting generated code into markup runs the risk of getting very messy, very quickly ❞

Assemble a web server with Node.js

Sometimes a gargantuan web server is too much. Here's how to 'roll-your-own' using Node.js

tools | tech | trends Node.js (nodejs.org), Express application framework (expressjs.com), Text editor **experts** Simon Bisson

Web servers don't need to be big, general-purpose applications. Over the years they've become more complex, delivering all kinds of content to your browser. But what if you need something focused? Internet Information Server and Apache are overkill, and even next-gen servers like nginx require significant resources. That's where Node.js comes in. Instead of taking an existing web server and letting you shoehorn your application around its features and APIs, Node.js takes a very different approach. You don't have a server, you just have a kit of parts that you can assemble into your own custom-built web appliance that handles the inputs and outputs you've designed – it's a router that takes inputs and gives outputs, an 'if this, then that' tool for your web applications.

Another advantage is, instead of learning C++ to build extensions to Apache, you're writing a server in the web's own programming language – JavaScript.

Node.js is a platform built on Chrome's JavaScript runtime for easily building fast, scalable network applications. Node.js uses an event–driven, non-blocking I/O model that makes it lightweight and efficient, perfect for data–intensive real–time applications that run across distributed devices.

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NODE.JS IN THE INDUSTRY

YAHOO!

Node.js is the execution core of Manhattan. Allowing developers to build one code base using one language – that is the nirvana for developers.

Renaud Waldura
Sr. Product Manager, Cocktail

UBER

Node has allowed us to build a global, real–time logistics system without having to think twice about locking or concurrency issues.

Curtis Chambers
Engineering Manager

Linked in

On the server side, our entire mobile software stack is completely built in Node. One reason was scale. The second is Node showed us huge performance gains.

Kiran Prasad
Director of Engineering, Mobile

Microsoft

Node gives Azure users the first end–to–end JavaScript experience for the development of a whole new class of real–time applications.

Claudio Caldato
Principal Program Manager, Interoperability Strategy

\<Above\>
• If you're working with Node.js on Windows, download the Azure Node.js SDK from the Microsoft Web Platform Installer

\<Left\>
• Express.js is a Model View Controller implementation for Node.js, which will build a framework for your applications

01 Getting to Node

Once installed, Node.js needs code to work. Unlike the familiar web servers, you'll need to write JavaScript to handle requests, building your own server from the Node.js framework. Start by creating a file called 'server.js'. This is the heart of a Node.js application, so declare a protocol and a port.

```
001 var http = require('http');
002 var port = process.env.port || 8888;
```

02 Creating a server

Our first two lines of code have declared two key variables - the protocol our server is listening for, and the port it's listening on. We can now start to add the code to handle the requests, and to deliver a response. We can do this in a single line, with a nested function in a createServer object.

```
001 http.createServer(function (request, response) {
002     response.writeHead(200, {'Content-Type': 'text/plain'});
003     response.end('Hello Web Designer\n');
004 }).listen(port);
```

03 Run a server

The code we've just added implements a basic HTTP response, and delivers a snippet of content to a page. You'll need to implement code for all the HTTP responses you want to add to a server, which means you'll need more than just a single piece of code. Save the code as 'server.js' and run it.

```
001 node server.js
```

04 Getting switched

A good way of thinking about Node.js is as a switch. Your code takes inputs from a port, and sends the results back to the requester over the web. It's event-driven – nothing happens unless it's triggered, with actions handled by functions. We can make our code a little clearer, with a function for the request handler.

> ❝ Unlike the familiar web servers, you'll need to write JavaScript to handle requests, building your own server ❞

```
001 var http = require('http');
002 var port = process.env.port || 8888;
003 function httpRequest(request, response) {
004     response.writeHead(200, {'Content-Type': 'text/plain'});
005     response.write('Hello Web Designer\n');
006     response.end();
007 }
008 http.createServer(httpRequest).listen(port);
```
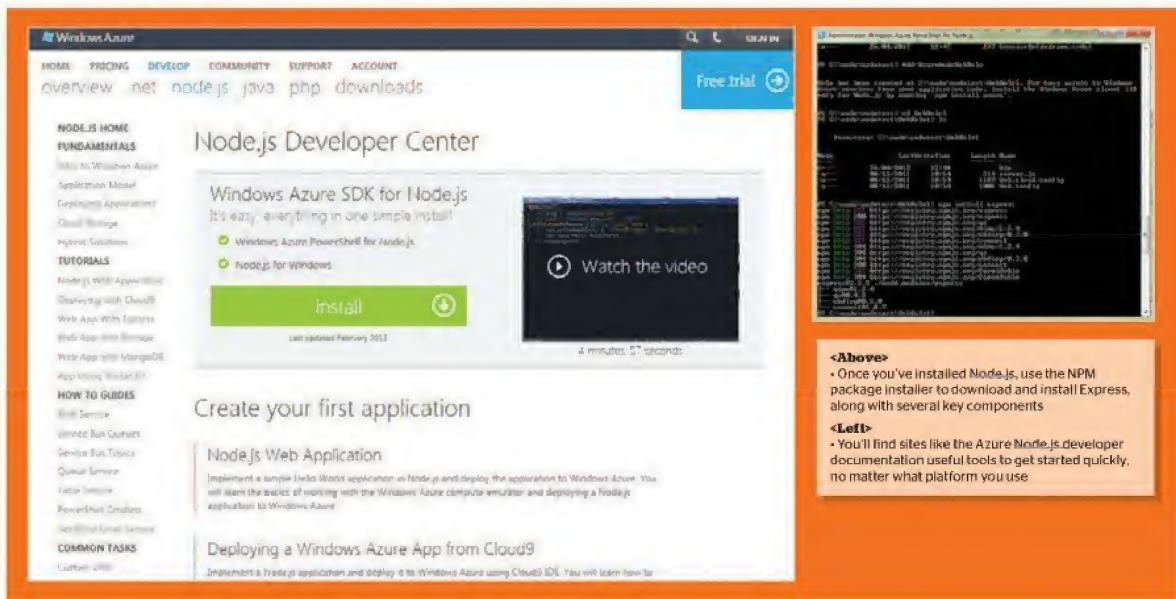
05 Making things simpler

Working with raw Node.js is, to be really quite honest with you, pretty complex. You need to understand just how a web server works in order to handle all the responses your service is going to need to give - and how to structure the HTTP content that gets returned. A good alternative option is to use Express, a set of libraries that make the process of building a server from scratch a lot easier. Start by installing Express using Node.js' built-in package manager.

```
001 $npm install -g express
```

06 Rewriting with Express

Using Express can simplify a lot of Node.js code. Instead of having to write all the HTTP responses for a server, Express handles it for you. You just need to define the server and its content. There's a lot less code to write, and even less keeping track. Our simple app becomes:

‹Above›
• Once you've installed Node.js, use the NPM package installer to download and install Express, along with several key components

‹Left›
• You'll find sites like the Azure Node.js developer documentation useful tools to get started quickly, no matter what platform you use

> ❝ Jade turns out to be a very important tool for anyone building MVC applications in Express and Node.js ❞

```
001 var app = require('express').createServer();
002 app.get('/', function(request, response){
003      response.send('Hello Web Designer');
004 }
005 app.listen(8888);
```

07 Express for MVC

Express is more than just a form of shorthand for building Node.js applications, it's a full Model View Controller framework, like the open-source Ruby on Rails or Microsoft's ASP.NET MVC. You can use it to automatically generate the framework for an application, which you can then customise and use as the basis for your code. Start by creating an application and install the appropriate dependencies.

```
001 $express /webdesigner && cd /webdesigner
002 $npm install-d
```

08 Cutomise Express

Now that we have built our Express application framework, we can start to customise it. We'll need to edit the view that's used by Express to display the index page, which is handled by Node.js' Jade templating engine – which separates code and design. In the views directory open 'index.jade' in a text editor.

```
001 h1= title
002 p Welcome to #{title}
```

09 A quick look at Jade

Jade turns out to be a very important tool for anyone building MVC applications in Express and Node.js. It's a simple template tool that displays content from our code. In the routes folder created by Express, open 'index.js'. You'll see a title variable – currently set to Express – which is used in the Jade template. Change it as follows:

```
001 exports.index = function(req, res){
002   res.render('index', { title: 'Web Designer' })
003 };
```
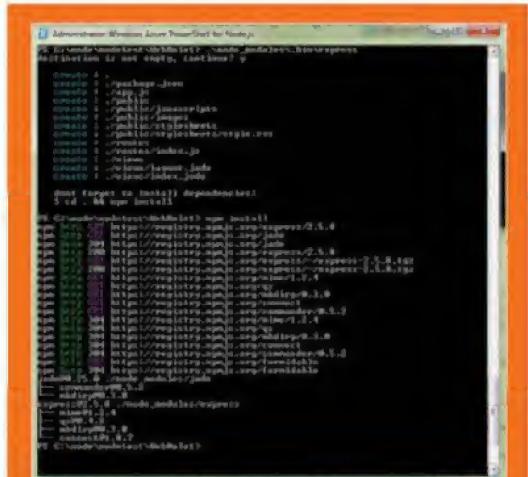
10 Adding a new route (1)

Node.js works as a switching engine, taking a URL input and delivering it to the appropriate output. Each input/output pair is called a route, and needs to be built into your application code. As we're using Express, we'll first need to modify our server code, to add the switching code we need. Edit the routes section as follows:

```
001 // Routes
002
003 app.get('/', routes.index);
004 app.get('/web', web.web);
```

11 Adding a new route (2)

We can now add a new section of code in the routes directory. It's always sensible to keep the sections of an MVC application in specific folders, as it makes them more manageable – and your job noticeably easier. You'll note that we're calling routes.web in the main server code, so we need to create the corresponding web.js file.

<Above>
• Run Express in an application folder to create an MVC framework, and then download dependencies, like the Jade templating environment

```
001  exports.web = function(req, res){
002   res.render('web', { title: 'A second page' })
003 };
```

12 Adding a new route (3)

You might think that's all you need to do to get a new route working, but there's more to do yet. In the head of our main server we're going to need to add some more code to declare a variable for our new route file. Add a require line for /routes/web as follows.

```
001 var express = require('express')
002   , routes = require('./routes')
003   , web = require('./routes/web');
```

13 Adding a new route (4)

We're now ready to add an additional template in the views directory for our new web page. We can use the existing index.jade file as the basis for the new template. It doesn't have to be particularly complicated, just a title and some body text. Create 'web.jade', and add the following content.

```
001 h1= title
002 p Welcome to page 2
```

14 Styling the pages

Express uses the Jade Node.js styling engine to handle template layout. We've created basic Jade templates for our pages, now we need to look at the master layout.jade file created by Express. This is where we can put site- (or section-) wide style information, including CSS and other HTML5 features. Add HTML formatting as needed.

```
001 !!!
002 html
003   head
004     title= title
005     link(rel='stylesheet', href='/stylesheets/style.css')
006   body!= body
```

15 Structuring Jade

If you look closely at a Jade template, and the corresponding code, you can start to see how the two fit together. Values passed to and from a Node.js function are rendered in pages, and elements prefixed by # are treated as DIVs for use with a stylesheet. If we wanted to render two pieces of text with an appropriate DIV:

```
001 #tag #{title} #{message};
```

Which displays as

```
001 <div id="tag">[content of title] [content of message]</div>
```

16 Passing values (1)

Now that we have the basic structure of our server we can start to build it into an application. We are going to write a simple server function that delivers a DNS lookup for a server name sent as part of a URL. Start by defining a new route for our DNS function.

```
001 var express = require('express')
002   , routes = require('./routes')
003   , lookup = require('./routes/lookup');
```

17 Passing values (2)

Add code to send a value to a new 'lookup.js' file that we're going to add to the routes folder, much like we did the file for the second page. However, this time we're sending more than just a call to a URL, we're also sending a value to parse as part of the URL we're using to call the server.

```
001 app.get('/', routes.index);
002 app.get('/web', web.web);
003 app.get('/lookup/:value', lookup.lookup);
```

18 Passing values (3)

We can now start to create our new route. You'll notice that we've been using app.get for all our routes so far. That's because Node.js implements HTTP's POST and GET functions. We're using GET as we're not working with forms, so we can use a query string to pass values from the browser to our code. Create a lookup.js file in the routes folder.

```
001  exports.lookup = function(req, res){
002   var dnsname = req.query['dnslookup'];
003   res.render('lookup', {title: 'DNS lookup',      dns:
   dnsname});
```

Using Node.js on Windows

Node.js has been ported to Windows by Microsoft and Joyent, and runs on Microsoft's Azure cloud platform. The Azure Node.js SDK can make a Windows PC an ideal Node.js development platform, with a local server and scripts to help manage servers. There's even support for NPM to install Node.js modules – and it's all a free download in the Microsoft Web Platform Installer.

```
004 };
005
```

19 Passing values (4)

The most important bit of code in our lookup.js file is the req.query statement. That's where we take the query string dnslookup value from the calling URL and convert it into a string, called dnsname string, which we can then use in our application, initially just displaying it in a jade template.

```
001   var dnsname = req.query['dnslookup'];
```

20 Passing values (5)

Now that we've extracted our data from our URL (eg http:// http://localhost:81/lookup?dnslookup=www.bbc. co.uk), we are now able to go ahead and display it. We've already written ourselves a res.render statement that delivers a title and a new variable, dns, set to the dnsname string to a lookup.jade template. We can now write a simple template to handle the call. Note the #{dns} statement. This will render the content of the dns variable, displaying the URL we want to see, which is www.bbc.co.uk.

```
001   h1= title
002   #{dns}
003
```

21 Looking up a dns value

Node.js contains a wide selection of functions we can use in our applications – functions that are needed in a server. One set handles dns lookups, both forward and reverse. As we're extracting a domain name from our query string, we can do a reverse lookup to display the IP address of the domain. Rewrite lookup.js to add the following code:

```
001   exports.lookup = function(req, res){
002     var dns = require('dns');
003     var dnsname = req.query['dnslookup'];
004     dns.lookup(dnsname,function(err, address) {
005       if(err) {
006         console.log(err.toString());
007         return;
008       }
009       dnsvalue = address;
010   });
011     res.render('lookup', {title: 'DNS lookup',
 dnstxt: dnsname, dnsnum: dnsvalue});
012   };
```

22 Displaying the result

We now need to modify our lookup.jade template to display the results. We've already put a structure in place with our call to res.render, adding a variable dnsnum that's set to the dnsvalue string and delivered by the dns.lookup function. It's simple, then, to go ahead and just add a new line to the existing template:

```
001   h1= title
002   #{dnstxt}
003   #{dnsnum}
```


<Left>
• While our service is very primitive, Node. js scales quickly and can be used to build complex services, like the Uber car service

Code library
Inside server.js

The heart of a Node.js application is the server.js file. It's here you define the structure of your application, and here that you start to put together the routes that translate URLs into function calls

The Modules section of a Node.js application is where you define the various code modules you're using in your application, either code you're writing, or from third parties.

You'll use the Configuration section to define how your application will work, including any templating engines used. A tool like Express will set this up for you.

Finally, the Routes section handles the URLs users will use to interact with your application. Our sample has three URLs, which are all handled by modules we defined earlier.

```
001   // Modules
002
003   var express = require('express')
004     , routes = require('./routes')
005     , web = require('./routes/web')
006     , lookup = require('./routes/lookup');
007   var app = module.exports = express.
createServer();
008
009   // Configuration
010
011   app.configure(function(){
012     app.set('views', __dirname + '/views');
013     app.set('view engine', 'jade');
014     app.use(express.bodyParser());
015     app.use(express.methodOverride());
016     app.use(app.router);
017     app.use(express.static(__dirname + '/
public'));
018   });
019
020   app.configure('development', function(){
021     app.use(express.errorHandler({
dumpExceptions: true, showStack: true }));
022   });
023
024   app.configure('production', function(){
025     app.use(express.errorHandler());
026   });
027
028   // Routes
029
030   app.get('/', routes.index);
031   app.get('/web', web.web);
032   app.get('/lookup', lookup.lookup);
033
034   app.listen(process.env.port);
```

David Yeiser

web **www.designintellection.com**

Current role	Founder and designer
Education	B.S. Civil Engineering, University of Louisville
Expertise	Information design, Photoshop, InDesign, WordPress, HTML, CSS, information architecture
Clients	Wake Forest University, Southern Seminary, Social Media Explorer, Pitchbrite
Twitter	@davidyeiser

David is an information designer from Louisville, Kentucky – a decent-sized city in the US, just east of the Midwest. Cutting his web-design chops with an Angelfire site in the late Nineties, he quickly discovered the web as a medium through which he could fully express his creativity. However, as the new millennium dawned it seemed that JavaScript and Flash ruled all, and so he made the decision to move on from Angelfire to learn new things and expand his skillset. In 2003, while experimenting with a Blogger template he accidentally discovered the world of web standards, and professes that he has been hooked ever since.

Primarily, David's workflow revolves around designing websites and mobile apps for others as a paid service. In addition to this, he is pursuing several commercial product endeavours such as packaged website themes and apps for Apple's mobile iOS.

What underlies his interest in the web as a medium, and designing for it, is a deep love of typography and words. Reading, writing and publishing is a sacred part of our culture and heritage, and being part of an industry where this historic entity is merging with the latest technology is a high privilege, and something for which he is very grateful.

At the moment – like many other designers around the world – David is most interested in the theory and application of responsive design (for more on responsive design see **Web Designer** #195); and, of course, the continued advancement of typography and its usage on the internet.

In his spare time he enjoys spending time with his wife and son, reading, and seeking out locally owned restaurants and coffee shops in his native Louisville. He secretly hopes to be a good writer someday.

01 **borderlin.es**

02 **menuandhours.com** 03 **www.socialmediaexplorer.com**

04 **news.wfu.edu**

05 **www.sbts.edu**

01
The background and user interface are neutral to provide contrast with the shape of the country as well as to avoid visual fatigue on extended gameplay.

02
The individual view of the restaurant details accommodates varying contexts: contacting them, opening times, directions and viewing the menu.

03
Bold typography and high-contrast colour give it a contemporary and professional presence when compared to social media-focused websites.

04
A traditional typographic hierarchy is implemented to give a natural order. Over 1,300 articles have been published using this template.

05
Southern Seminary has a rich traditional history yet is always on the cusp of technology. To undergird this, a classic serif mixes with a contemporary sans-serif.

# Airton Groba

web www.estudionav.com.br

Current role Creative director and founder of the studio.
Education Bachelor of Computer Science
Expertise Photoshop, Illustrator, InDesign, pen and paper.
Clients Fischer+Fala, Young & Rubicam, Rapp Collins, Lew Lara TBWA
Twitter @estudionav

Born in Sao Paulo, Brazil, Airton Groba began his career as an art director and has worked for a host of agencies including Euro RSCG 4D, Y & R Garage Interactive and Energy. Along the way he has worked with a number of well-known brands such as Skol, Kaiser, Toyota, LG, Colgate, Heineken, TIM, Nokia, Microsoft, Intel, Danone and Goodyear. After several years, Airton realised his long-term dream when he founded Studio Nav in 2011.

The studio is focused on design and illustration and works with a range of projects including web design, the creation of visual identity, illustration, 3D and 2D.

The studio tends to create different platforms, whether online or offline, always aiming to deliver the best visual solution for their customer. The multidisciplinary part of the studio's day is about creation, Groba says: "We are not artists, so we like to wander through many styles of illustration only, without barriers to creativity." Studio Nav is always looking to incorporate new illustration techniques, or new ways to organise the layout of a site because it believes nothing is wrong when it is beautiful to the eye. Now, in 2012, the great mission of the studio is to evolve its portfolio. The Nav is not limited creatively and is not restricted to just one style. In the future, Studio Nav studio plans to use more photo shoots, make more animations and make much more use of 3D.

02 **Illustration for Mac+ magazine**

02 **bit.ly/IJMEvq**

04 **www.estudionav.com.br**

05 **bit.ly/HHr1hb**
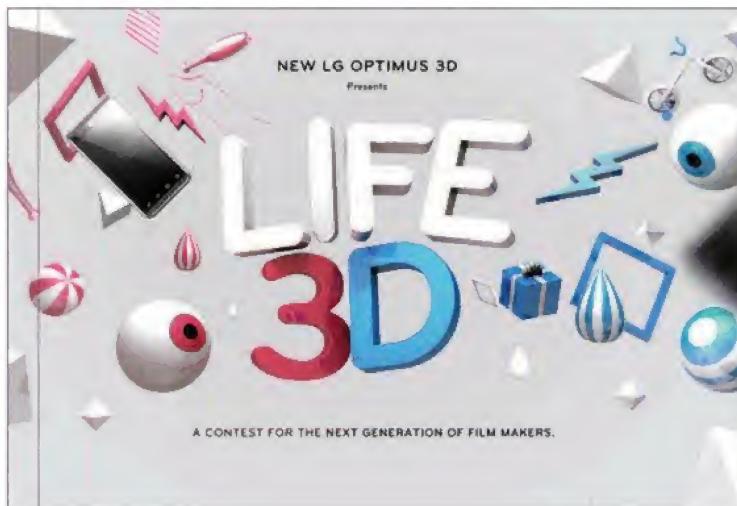
01 **Campaign artwork**

01
Artwork created for the release of the LG Optimus 3D smartphone makes good use of 3D text to add depth and imagination to the artwork.

02
A beautifully put together illustration demonstrates the visual impact and effect that this unique 3D-screen smartphone has over its competition.

03
Glamour is an eCommerce store that sells fashion. Studio Nav created both the back-end eCommerce solution and the company logo.

04
The Nav Studio homepage adopts full-screen backgrounds and a side-scrolling navigation to present all the Studio Nav work in a flattering light.

05
The brick textures and neon sign re-create the typical exterior bar decoration, creating familiarity and making sure visitors know this site is about beer.

Celeste du Preez

web **www.celestedupreez.com**

Current role	Freelance designer
Education	University of Johannesburg, National Diploma (3 year), Graphic Design
Expertise	Digital design, information architecture, brand identity design, Accessible & W3C-compliant XHTML & CSS, custom-built WordPress themes
Clients	Sony Ericsson, Dragoman, Lisa Snook, Hertz, LoveFilm
Twitter	@CelesteduPreez

'Keep it simple' is Celeste's mantra - in both design and in life. She is a creative thinker through and through and her web design lives up to this philosophy. There is a simple, clean elegance to everything she does and not just the look and feel of her designs.

Her work blends both her passion for creating beautiful things with a drive to make stuff that, frankly, just works well. Celeste is a self-confessed usability evangelist. '*Don't Make Me Think*' by Steve Krug is her bible. When she graduated in 1998, the internet and web design industry was still very much in its infancy. "It was the Wild West in those days; web standards and usability guidelines didn't really exist yet and the browser wars were in full swing. My view was, and is, that if someone can't use a website they will just go elsewhere. Usability always affects a client's bottom line in terms of conversions, so it's essential to plan and build something that works." After building her first website, she was certifiably hooked. 13 years on, she still enjoys how, on a day-to-day basis, a web design project evolves from an idea to a functional and interactive experience. The internet inspires her love of freedom of expression and sharing ideas and the sense of community resonates strongly with her personal values. Although Celeste specialises in creating brands and websites for small businesses, she is regularly sought after by the big agencies too.

01 www.celestedupreez.com

02 silverspacepillows.com

03 darrensearle.com

04 52characters.com

05 Client mockup

01
A WordPress portfolio site that uses a single page to tell a story. The little girl logo creates a common theme between the different sections of the site.

02
SSP is an independent marketer to the arts sector. The site uses a bold and simple custom WordPress theme to portray the company message.

03
A WordPress portfolio site that has been built around the print blocks logo. The colour scheme and textures add to the ambience of the page.

04
This site is based on Celeste's drawings over a year. A vintage wallpaper background, paper textures and hand-drawn copy create an informal feel.

05
The client for this mockup is a data architect, and a grid background texture was used to reflect this. Plenty of space helps users absorb the on-screen information.

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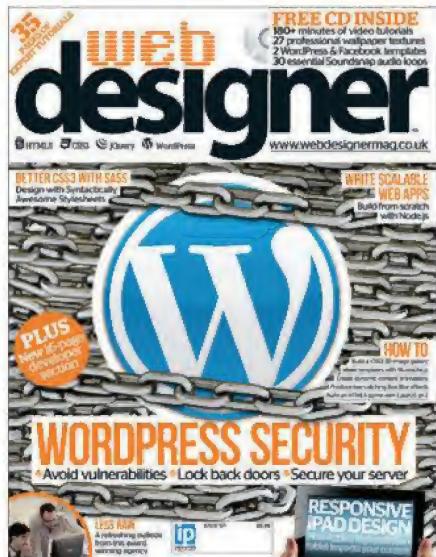

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webdesigner@imagine-publishing.co.uk

NAME AND URL	PACKAGE	PHONE NUMBER	COST PER YEAR	WEB SPACE	MONTHLY BANDWIDTH	POP3 ACCOUNTS	DATABASE SUPPORT	SHOPPING CART	VIRUS FILTER	FIREWALL	PHONE SUPPORT	EMAIL SUPPORT	WEB CONTROL PANEL	SERVICE LEVEL AGREEMENT
1 & 1 Internet Ltd. www.1and1.co.uk	1&1 Starter (Linux)	0844 335 12 11	£29.88	5GB	Unlimited	1,000	✓	✗	✓	✓	✓	✓	✓	✗
	1&1 Standard (Linux)	0844 335 12 11	£59.88	50GB	Unlimited	3,000	✓	✓	✓	✓	✓	✓	✓	✗
	1&1 Standard (MS)	0844 335 12 11	£71.88	50GB	Unlimited	3,000	✓	✗	✓	✓	✓	✓	✓	✗
	1&1 Unlimited (Linux)	0844 335 12 11	£83.88	Unlimited	Unlimited	5,000	✓	✓	✓	✓	✓	✓	✓	✗
	1&1 Unlimited (MS)	0844 335 12 11	£107.88	Unlimited	Unlimited	5,000	✓	✗	✓	✓	✓	✓	✓	✗
	1&1 Business (Linux)	0844 335 12 11	£119.88	Unlimited	Unlimited	Unlimited	✓	✓	✓	✓	✓	✓	✓	✗
	1&1 Business (MS)	0844 335 12 11	£155.88	Unlimited	Unlimited	Unlimited	✓	✗	✓	✓	✓	✓	✓	✗
111WebHost.com http://111webhost.com	Unlimited Web Hosting Pack	N/A	£60	Unlimited	Unlimited	Unlimited	✓	✓	✓	✓	✗	✓	✓	✗
	Starter Web Hosting Pack	N/A	£30	5GB	2GB	100	✓	✓	✓	✓	✗	✓	✓	✗
	Budget Web Hosting Pack	N/A	£12	1GB	1GB	5	✓	✗	✓	✓	✗	✓	✓	✗
	WordPress Web Hosting Pack	N/A	£24	5GB	2GB	100	✓	✓	✓	✓	✗	✓	✓	✗
	Drupal Web Hosting Pack	N/A	£24	5GB	2GB	100	✓	✓	✓	✓	✗	✓	✓	✗
	Joomla! Web Hosting Pack	N/A	£24	5GB	2GB	100	✓	✓	✓	✓	✗	✓	✓	✗
	osCommerce Web Hosting Pack	N/A	£24	5GB	2GB	100	✓	✓	✓	✓	✗	✓	✓	✗
	ZenCart Web Hosting Pack	N/A	£24	5GB	2GB	100	✓	✓	✓	✓	✗	✓	✓	✗
	PrestaShop Web Hosting Pack	N/A	£24	5GB	2GB	100	✓	✓	✓	✓	✗	✓	✓	✗
123-reg (www.123-reg.co.uk)	Starter	0845 859 0018	£29.88	1GB	5GB	20					✓	✓	✓	✓
123-reg (www.123-reg.co.uk)	Plus	0845 859 0018	£59.88	5GB	50GB	500	✓				✓	✓	✓	✓
123-reg (www.123-reg.co.uk)	Pro	0845 859 0018	£107.88	10GB	100GB	750	✓				✓	✓	✓	✓
123-reg (www.123-reg.co.uk)	Bus Pro	0845 859 0018	£179.88	20GB	Unlimited	1,000	✓				✓	✓	✓	✓
123-reg (www.123-reg.co.uk)	Plus (MS)	0845 859 0018	£59.88	2GB	25GB	100	✓				✓	✓	✓	✓
123-reg (www.123-reg.co.uk)	Pro (MS)	0845 859 0018	£107.88	5GB	50GB	500	✓				✓	✓	✓	✓
123-reg (www.123-reg.co.uk)	Bus Pro (MS)	0845 859 0018	£179.88	10GB	150GB	1,000	✓				✓	✓	✓	✓
2020Media (www.2020media.com)	Light User	0870 321 2020	£45	20MB	1GB	3	✓	✓	✓	✓	✓	✓	✓	
2020Media (www.2020media.com)	Everyday	0870 321 2020	£100	200MB	10GB	15	✓	✓	✓	✓	✓	✓	✓	
2020Media (www.2020media.com)	Business/Pro	0870 321 2020	£275	500MB	20GB	50	✓	✓	✓	✓	✓	✓	✓	
2020Media (www.2020media.com)	JAVA Tomcat	0870 321 2020	£300	100MB	3GB	15	✓	✓	✓	✓	✓	✓	✓	
2020Media (www.2020media.com)	ASP.Net	0870 321 2020	£275	100MB	3GB	15	✓	✓	✓	✓	✓	✓	✓	
4D Data Centres (www.4dhosting.com)	Bronze Package	0845 166 8386	£40	10MB	500MB	2	✓		✓	✓	✓	✓	✓	
4D Data Centres (www.4dhosting.com)	Silver Package	0845 166 8386	£64.99	20MB	2GB	10	✓		✓	✓	✓	✓	✓	
4D Data Centres (www.4dhosting.com)	Gold Package	0845 166 8386	£79.99	50MB	2GB	50	✓		✓	✓	✓	✓	✓	
4D Data Centres (www.4dhosting.com)	Titanium Package	0845 166 8386	£149.99	500MB	5GB	500	✓		✓	✓	✓	✓	✓	✓
4D Data Centres (www.4dhosting.com)	Reseller Package	0845 166 8386	£299.99	1GB	10GB	1,000	✓		✓	✓	✓	✓	✓	✓
Blackfoot Hosting Ltd (www.blackfoot.co.uk)	Home	N/A	£40	500MB	5GB	5	✓	✓	✓	✓		✓	✓	
Blackfoot Hosting Ltd (www.blackfoot.co.uk)	Business	N/A	£50	1GB	20GB	100	✓	✓	✓	✓		✓	✓	
Blackfoot Hosting Ltd (www.blackfoot.co.uk)	eCommerce	N/A	£100	2GB	40GB	200	✓	✓	✓	✓		✓	✓	
Blackfoot Hosting Ltd (www.blackfoot.co.uk)	Professional	N/A	£150	3GB	60GB	300	✓	✓	✓	✓		✓	✓	
Blacknight (www.blacknight.com)	Minimus	35359 918 3072	£45	10GB	200GB	Unlimited	✓	✓	✓	✓	✓	✓	✓	
Blacknight (www.blacknight.com)	Medius	35359 918 3072	£79	20GB	400GB	Unlimited	✓	✓	✓	✓	✓	✓	✓	
Blacknight (www.blacknight.com)	Maximus	35359 918 3072	£45	30GB	600GB	Unlimited	✓	✓	✓	✓	✓	✓	✓	
Bravo14 (http://bravo14.co.uk)	Starter Linux	N/A	£130	2,000MB	2,000MB	10	✓	✓	✓	✓		✓	✓	✓
Bravo14 (http://bravo14.co.uk)	Starter Windows	N/A	£20	2,000MB	2,000MB	10	✓	✓	✓	✓		✓	✓	✓
Bravo14 (http://bravo14.co.uk)	Business Linux	N/A	£45	4,000MB	4,000MB	4,000	✓	✓	✓	✓		✓	✓	✓
Bravo14 (http://bravo14.co.uk)	Business Windows	N/A	£45	4,000MB	4,000MB	4,000	✓	✓	✓	✓		✓	✓	✓
Bravo14 (http://bravo14.co.uk)	Ultimate Linux	N/A	£60	Unlimited	Unlimited	Unlimited	✓	✓	✓	✓		✓	✓	✓
Bravo14 (http://bravo14.co.uk)	Ultimate Windows	N/A	£60	Unlimited	Unlimited	Unlimited	✓	✓	✓	✓		✓	✓	✓
Daily Internet (www.daily.co.uk)	Entry	0845 466 2100	£19.28	500MB	5GB	75	✓		✓		✓	✓	✓	
Daily Internet (www.daily.co.uk)	Home	0845 466 2100	£50.90	3GB	30GB	30	✓	✓	✓		✓	✓	✓	
Daily Internet (www.daily.co.uk)	Business	0845 466 2100	£53.94	12GB	150GB	600	✓	✓	✓		✓	✓	✓	
Daily Internet (www.daily.co.uk)	Business Plus	0845 466 2100	£77.94	24GB	250GB	Unlimited	✓	✓	✓		✓	✓	✓	
Designwasp (http://designwasp.com)	Starter	0844 372 9848	£30	3GB	20GB	1,000	✓	✓			✓	✓	✓	
Designwasp (http://designwasp.com)	Home	0844 372 9848	£40	10GB	5GB	10,000	✓	✓			✓	✓	✓	
Designwasp (http://designwasp.com)	Business	0844 372 9848	£60	Unlimited	Unlimited	Unlimited	✓	✓			✓	✓	✓	

Featured host of the month: Blackfoot Hosting www.blackfoot.co.uk

Offering more reasons for choosing one of the listed providers

Blackfoot is an experienced UK-based web-hosting provider with a proven pedigree in offering hosting and domain name registration services since 1999. Specialising in Linux-based servers, housed across three London data centres, Blackfoot promises 24/7 monitoring and a dedicated support team to guarantee uptime and first-class delivery. Hosting options are available in five flavours ranging from the entry-level Home solution for £40 per year, up to the powerful eCommerce, Professional and Partner packages priced between £100-200. All come with access to the feature-packed cPanel control panel for intuitive maintenance.

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Designwasp (http://designwasp.com)	Windows Unlimited	0844 372 9848	£60	Unlimited	Unlimited	Unlimited	✓	✓		✓		✓	✓	✓
Designwasp (http://designwasp.com)	Windows Home	0844 372 9848	£40	10GB	50GB	1,000	✓	✓		✓		✓	✓	✓
Designwasp (http://designwasp.com)	CheapHost	0844 372 9848	£10	300MB	100MB	5				✓		✓	✓	✓
Digital Gibbon Ltd (http://digitalgibbon.com)	Personal	01865 589 990	£12	1GB	Unlimited	10	✓			✓	✓	✓	✓	✓
Digital Gibbon Ltd (http://digitalgibbon.com)	Personal Plus	01865 589 990	£48	Unlimited	Unlimited	50	✓			✓	✓	✓	✓	✓
Digital Gibbon Ltd (http://digitalgibbon.com)	Business	01865 589 990	£108	5GB	Unlimited	1000	✓	✓		✓	✓	✓	✓	✓
Digital Gibbon Ltd (http://digitalgibbon.com)	Business Professional	01865 589 990	£132	Unlimited	Unlimited	Unlimited	✓	✓		✓	✓	✓	✓	✓
Domaincheck (www.domaincheck.co.uk)	Bronze Linux	0191 261 2252	£30	100MB	1GB	5			✓	✓	✓	✓	✓	✓
Domaincheck (www.domaincheck.co.uk)	Gold Linux	0191 261 2252	£100	500MB	5GB	25	✓	✓	✓	✓	✓	✓	✓	✓
Domaincheck (www.domaincheck.co.uk)	Bronze Windows	0191 261 2252	£30	100MB	1GB	5			✓	✓	✓	✓	✓	✓
Domaincheck (www.domaincheck.co.uk)	Gold Windows	0191 261 2252	£100	500MB	5GB	25	✓	✓	✓	✓	✓	✓	✓	✓
Donhost (www.donhost.co.uk)	Reseller Unix	0845 226 5566	£399.99	Unlimited	Unlimited	Unlimited	✓		✓	✓	✓	✓	✓	✓
Donhost (www.donhost.co.uk)	Reseller Windows	0845 226 5566	£499.99	Unlimited	Unlimited	Unlimited	✓		✓	✓	✓	✓	✓	✓
Donhost (www.donhost.co.uk)	Enterprise	0845 226 5566	£89.99	1GB	2GB	250	✓		✓	✓	✓	✓	✓	✓
Donhost (www.donhost.co.uk)	Commerce	0845 226 5566	£179.99	2GB	5GB	500	✓	✓	✓	✓	✓	✓	✓	✓
Donhost (www.donhost.co.uk)	Designer	0845 226 5566	£119.99	1GB	2GB	250	✓		✓	✓	✓	✓	✓	✓
Donhost (www.donhost.co.uk)	Developer	0845 226 5566	£259.99	2GB	5GB	500	✓		✓	✓	✓	✓	✓	✓
eHosting (www.ehosting.com)	Starter	0844 999 4100	£23.88	1GB	25GB	10						✓	✓	✓
eHosting (www.ehosting.com)	Personal	0844 999 4100	£59.88	2.5GB	Unlimited	50	✓					✓	✓	✓
eHosting (www.ehosting.com)	Expert	0844 999 4100	£95.88	5GB	Unlimited	250	✓					✓	✓	✓
eHosting (www.ehosting.com)	Virtual	0844 999 4100	£227.88	50GB	Unlimited	Unlimited	✓				✓	✓	✓	✓
Equiphase (www.equiphase.net)	Bronze	0121 314 4865	£30	200MB	2GB	10	✓	✓		✓		✓	✓	✓
Equiphase (www.equiphase.net)	Silver	0121 314 4865	£42	400MB	5GB	20	✓	✓		✓		✓	✓	✓
Equiphase (www.equiphase.net)	Gold	0121 314 4865	£72	800MB	10GB	100	✓	✓		✓		✓	✓	✓
Equiphase (www.equiphase.net)	Platinum	0121 314 4865	£114	1,200MB	40GB	200	✓	✓	✓	✓	✓	✓	✓	✓
Eurofasthost.com (www.eurofasthost.com)	Email Only	02380 249 823	£40	1GB	2GB	10			✓	✓	✓	✓	✓	✓
Eurofasthost.com (www.eurofasthost.com)	Essential	02380 249 823	£75	2GB	5GB	10			✓	✓	✓	✓	✓	✓
Eurofasthost.com (www.eurofasthost.com)	Superior	02380 249 823	£140	5GB	10GB	25	✓	✓	✓	✓	✓	✓	✓	✓
Eurofasthost.com (www.eurofasthost.com)	Premium	02380 249 823	£250	10GB	25GB	100	✓	✓	✓	✓	✓	✓	✓	✓
Evohosting (www.evohosting.co.uk)	Starter	N/A	£29.99	500MB	1GB	3	✓	✓	✓	✓		✓	✓	✓
Evohosting (www.evohosting.co.uk)	Home	N/A	£54.99	2.5GB	30GB	50	✓	✓	✓	✓		✓	✓	✓
Evohosting (www.evohosting.co.uk)	Business	N/A	£79.99	6.5GB	Unlimited	Unlimited	✓	✓	✓	✓		✓	✓	✓
Evohosting (www.evohosting.co.uk)	eCommerce	N/A	£159.99	30GB	Unlimited	Unlimited	✓	✓	✓	✓		✓	✓	✓
Giacom (www.giacom.com)	Business Pro	0800 542 7500	£199	100MB	2GB	100	✓	✓	✓	✓	✓	✓	✓	✓
Fasthosts www.fasthosts.co.uk	Personal Standard	0844 583 0777	£53.88	5GB	Unlimited	500	✓	✗	✓	✓	✓	✓	✓	✗
Fasthosts www.fasthosts.co.uk	Business Standard	0844 583 0777	£95.88	25GB	Unlimited	1,000	✓	Option	✓	✓	✓	✓	✓	✗
Fasthosts www.fasthosts.co.uk	Business Premium	0844 583 0777	£173.88	50GB	Unlimited	Unlimited	✓	Option	✓	✓	✓	✓	✓	✗
Fasthosts www.fasthosts.co.uk	WD Starter Reseller	0844 583 0777	£149.99	20GB	Unlimited	Unlimited	✓	Option	Option	✓	✓	✓	✓	✗
Fasthosts www.fasthosts.co.uk	Advanced Reseller	0844 583 0777	£199.99	Unlimited	Unlimited	Unlimited	✓	Option	Option	✓	✓	✓	✓	✗
Heart Internet (www.heartinternet.co.uk)	Starter Professional	0845 644 7750	£29.80	2.5GB	10GB	1,000				✓		✓	✓	✓
Heart Internet (www.heartinternet.co.uk)	Home Professional	0845 644 7750	£89.99	10GB	50GB	10,000	✓	✓		✓		✓	✓	✓
Heart Internet (www.heartinternet.co.uk)	Business Professional	0845 644 7750	£129.99	Unlimited	Unlimited	Unlimited	✓	✓		✓		✓	✓	✓
Heart Internet (www.heartinternet.co.uk)	Reseller Professional	0845 644 7750	£299.99	Unlimited	Unlimited	Unlimited	✓	✓		✓		✓	✓	✓
Hostway (www.hostway.co.uk)	Silver	0808 180 1880	£79.50	150MG	3GB	5		Option	✓	✓		✓	✓	✓
Hostway (www.hostway.co.uk)	Gold	0808 180 1880	£139.50	300MB	5GB	10	✓	Option	✓	✓	✓	✓	✓	✓
Hostway (www.hostway.co.uk)	Gold Plus	0808 180 1880	£189.50	450MB	10GB	30	✓	Option	✓	✓	✓	✓	✓	✓
Hostway (www.hostway.co.uk)	Platinum	0808 180 1880	£359.50	600MB	20GB	50	✓	Option	✓	✓	✓	✓	✓	✓
Hostway (www.hostway.co.uk)	Platinum Plus	0808 180 1880	£599.50	1.2GB	40GB	10	✓	Option	✓	✓	✓	✓	✓	✓
Hostway (www.hostway.co.uk)	Email Plus	0808 180 1880	£49.95	50MB	N/A	5	N/A	N/A	N/A	✓		✓	✓	✓
ICUK www.icukhosting.co.uk	Professional	0845 009 9175	£30	250MB	1GB	50	✓	✓	option	✓	✓	✓	✓	✓
ICUK www.icukhosting.co.uk	Advanced	0845 009 9175	£50	2GB	2.5GB	150	✓	✓	option	✓	✓	✓	✓	✓
ICUK www.icukhosting.co.uk	Enterprise	0845 009 9175	£80	2GB	500MB	Unlimited	✓	✓	option	✓	✓	✓	✓	✓
ICUK www.icukhosting.co.uk	Professional Plus	0845 009 9175	£90	500MB	5GB	100	✓	✓	option	✓	✓	✓	✓	✓
ICUK www.icukhosting.co.uk	Premium Plus	0845 009 9175	£150	1GB	12.5GB	500	✓	✓	option	✓	✓	✓	✓	✓
ICUK www.icukhosting.co.uk	Enterprise Plus	0845 009 9175	£300	2GB	20GB	Unlimited	✓	✓	option	✓	✓	✓	✓	✓

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Continued...

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ICUK www.icukhosting.co.uk	Reseller Windows	0845 009 9175	£200	Unlimited	Unlimited	Unlimited	✓	✓	option	✓	✓	✓	✓	✓
ICUK www.icukhosting.co.uk	Reseller Linux	0845 009 9175	£200	Unlimited	Unlimited	Unlimited	✓	✓	option	✓	✓	✓	✓	✓
ICUK www.icukhosting.co.uk	Reseller Enterprise	0845 009 9175	£500	Unlimited	Unlimited	Unlimited	✓	✓	option	✓	✓	✓	✓	✓
JAB Web Hosting (www.jabwebhosting.com)	Mail - M105	0800 043 0153	£15.17	256MB	3GB	50				✓	✓	✓	✓	✓
JAB Web Hosting (www.jabwebhosting.com)	Home - H25	0800 043 0153	£24.47	1GB	8GB	50				✓	✓	✓	✓	✓
JAB Web Hosting (www.jabwebhosting.com)	Professional - P55	0800 043 0153	£45	2GB	15GB	75	✓	✓		✓	✓	✓	✓	✓
JAB Web Hosting (www.jabwebhosting.com)	Reseller - R25	0800 043 0153	£97.88	2GB	30GB	250	✓	✓		✓	✓	✓	✓	✓
JAB Web Hosting (www.jabwebhosting.com)	Reseller - R105	0800 043 0153	£271.60	4GB	Unlimited	Unlimited	✓	✓		✓	✓	✓	✓	✓
LCN (www.lcn.com)	Blog	01438 342 490	£20	100MB	1GB	5			✓	✓	✓	✓	✓	✓
LCN (www.lcn.com)	Starter	01438 342 490	£30	1GB	1GB	10			✓	✓	✓	✓	✓	✓
LCN (www.lcn.com)	Starter	01438 342 490	£30	1GB	1GB	10			✓	✓	✓	✓	✓	✓
LCN (www.lcn.com)	Dynamic	01438 342 490	£50	2GB	2GB	20	✓	✓	✓	✓	✓	✓	✓	✓
LCN (www.lcn.com)	Premium	01438 342 490	£80	5GB	5GB	50	✓	✓	✓	✓	✓	✓	✓	✓
LCN (www.lcn.com)	Unlimited	01438 342 490	£120	Unlimited	Unlimited	Unlimited	✓	✓	✓	✓	✓	✓	✓	✓
LD Hosts (http://ldhosts.co.uk)	LD Budget (Linux)	07891 235858	£11.88	1GB	1GB	500	✓	✓		✓	✓	✓	✓	✓
LD Hosts (http://ldhosts.co.uk)	LD Home (Linux)	07891 235858	£23.88	10GB	10GB	5,000	✓	✓		✓	✓	✓	✓	✓
LD Hosts (http://ldhosts.co.uk)	LD Pro (Linux)	07891 235858	£41.88	50GB	50GB	20,000	✓	✓		✓	✓	✓	✓	✓
LD Hosts (http://ldhosts.co.uk)	LD Unlimited (Linux)	07891 235858	£60	Unlimited	Unlimited	Unlimited	✓	✓		✓	✓	✓	✓	✓
LD Hosts (http://ldhosts.co.uk)	Windows Home	07891 235858	£17.88	2GB	2GB	1,000	✓	✓		✓	✓	✓	✓	✓
LD Hosts (http://ldhosts.co.uk)	Windows Unlimited	07891 235858	£60	Unlimited	Unlimited	Unlimited	✓	✓		✓	✓	✓	✓	✓
Media Temple (http://mediatemple.net)	Shared-Server Pro	+1 310 841 5500	£64	2GB	1TB	1,000	✓	✓	✓	✓	✓	✓	✓	✓
Media Temple (http://mediatemple.net)	Shared-Server Advanced	+1 310 841 5500	£109	5GB	1.5TB	5,000	✓	✓	✓	✓	✓	✓	✓	✓
NameHOG Affordable Internet Solutions **Namehog** www.namehog.net	EMAIL ONLY	01604 212 904	£11.99	2.5GB	15GB	10	✗	✗	✓	✓	✓	✓	✓	✓
	STARTER	01604 212 904	£36.99	10GB	150GB	Unlimited	✗	✗	✓	✓	✓	✓	✓	✓
	HOME PRO	01604 212 904	£59.99	25GB	Unlimited	Unlimited	✓	✓	✓	✓	✓	✓	✓	✓
	BUSINESS	01604 212 904	£109.99	Unlimited	Unlimited	Unlimited	✓	✓	✓	✓	✓	✓	✓	✓
Namesco (www.names.co.uk)	StartUp Plus	0845 363 3632	£89.99	500MB	5GB	10	✓	✓	✓	✓	✓	✓	✓	✓
Namesco (www.names.co.uk)	Business	0845 363 3632	£149.99	2,000MB	20GB	100			✓	✓	✓	✓	✓	✓
Namesco (www.names.co.uk)	Business Plus	0845 363 3632	£89.99	3,000MB	30GB	200	✓	✓	✓	✓	✓	✓	✓	✓
Namesco (www.names.co.uk)	Designer	0845 363 3632	£239.88	1GB	20GB	200	✓	✓	✓	✓	✓	✓	✓	✓
Namesco (www.names.co.uk)	Designer Plus	0845 363 3632	£479.88	Unlimited	30GB	Unlimited	✓	✓	✓	✓	✓	✓	✓	✓
NETCETERA Netcetera www.netcetera.co.uk	DEVELOPER	0800 061 2801	£32.89	1GB	Unlimited	500	✓	✓	✓	✓	✓	✓	✓	✓
	ONE	0800 061 2801	£109.99	5GB	Unlimited	1000	✓	✓	✓	✓	✓	✓	✓	✓
	RESELLER	0800 061 2801	£274.89	Unlimited	Unlimited	1000	✓	✓	✓	✓	✓	✓	✓	✓
	VM500 Server	0800 061 2801	£300	20GB	Unlimited	Unlimited	✓	✓	✓	✓	✓	✓	✓	✓
	2200DC Server	0800 061 2801	£720	160GB	Unlimited	Unlimited	✓	✓	✓	✓	✓	✓	✓	✓
	3000DC Server	0800 061 2801	£1,200	2x500GB	Unlimited	Unlimited	✓	✓	✓	✓	✓	✓	✓	✓
	2600QC Server	0800 061 2801	£1,800	2x500GB	Unlimited	Unlimited	✓	✓	✓	✓	✓	✓	✓	✓
Netplan (www.netplan.co.uk)	Shared 100	0207 1000 424	£60	100MB	1GB	5	✓	✓	✓	✓	✓	✓	✓	✓
Netplan (www.netplan.co.uk)	VS100	0207 1000 424	£600	5GB	5GB	5	✓	✓	✓	✓	✓	✓	✓	✓
Netplan (www.netplan.co.uk)	VS200	0207 1000 424	£1,000	10GB	10GB	10	✓	✓	✓	✓	✓	✓	✓	✓
Netplan (www.netplan.co.uk)	VS300	0207 1000 424	£2,000	15GB	50GB	20	✓	✓	✓	✓	✓	✓	✓	✓
Netplan (www.netplan.co.uk)	Dedicated Servers	0207 1000 424	£3,000+	73GB+	1,500GB	100+	✓	✓	✓	✓	✓	✓	✓	✓
PurplePaw (www.purplepaw.co.uk)	Email	N/A	£25	100MB	1GB	10				✓	✓	✓	✓	
PurplePaw (www.purplepaw.co.uk)	Play	N/A	£40	100MB	1GB	10				✓	✓		✓	✓
PurplePaw (www.purplepaw.co.uk)	Plus	N/A	£65	750MB	5GB	25	✓	✓	✓	✓			✓	✓
PurplePaw (www.purplepaw.co.uk)	Power	N/A	£95	2GB	10GB	100	✓	✓	✓	✓		✓	✓	✓
PurplePaw (www.purplepaw.co.uk)	R3 Reseller	N/A	£660	10GB	50GB	Unlimited	✓	✓	✓	✓		✓	✓	✓
Reddex UK (www.reddexuk.com)	Reddex Design Starter	0843 289 4625	£18	1GB	Unlimited	10	✓		✓	✓	✓	✓	✓	✓
Reddex UK (www.reddexuk.com)	Reddex Design Business	0843 289 4625	£59.88	10GB	Unlimited	100	✓	✓	✓	✓	✓	✓	✓	✓
Reddex UK (www.reddexuk.com)	Reddex Design Premium	0843 289 4625	£107.88	100GB	Unlimited	Unlimited	✓	✓	✓	✓	✓	✓	✓	✓
Skymarket (www.skymarket.co.uk)	Standard 1	0800 321 7788	£49	10MB	2GB	1	✓			✓	✓	✓	✓	✓
Skymarket (www.skymarket.co.uk)	Standard 2	0800 321 7788	£69	20MB	2GB	1	✓			✓	✓	✓	✓	✓

Can you recommend your host?

Tweet us today with your hosting comments and advice
@WebDesignerMag

NAME AND URL	PACKAGE	PHONE NUMBER	COST PER YEAR	WEB SPACE	MONTHLY BANDWIDTH	POP3 ACCOUNTS	DATABASE SUPPORT	SHOPPING CART	VIRUS FILTER	FIREWALL	PHONE SUPPORT	EMAIL SUPPORT	WEB CONTROL PANEL	SERVICE LEVEL AGREEMENT
Skymarket (www.skymarket.co.uk)	Premium 1	0800 321 7788	£99	25MB	2GB	1	✓			✓	✓	✓	✓	✓	✓
Skymarket (www.skymarket.co.uk)	Premium 2	0800 321 7788	£149	50MB	2GB	1	✓			✓	✓	✓	✓	✓	✓
STRATO Hosting (www.strato-hosting.co.uk)	STRATO BasicWeb	00800 8007 0070	£48	2GB	Unlimited	1,000				✓	✓	✓	✓	✓	
STRATO Hosting (www.strato-hosting.co.uk)	STRATO PowerWeb	00800 8007 0070	£72	6GB	Unlimited	2,000	✓			✓	✓	✓	✓	✓	
STRATO Hosting (www.strato-hosting.co.uk)	STRATO AdvancedWeb	00800 8007 0070	£120	20GB	Unlimited	4,000	✓			✓	✓	✓	✓	✓	
STRATO Hosting (www.strato-hosting.co.uk)	STRATO EnterpriseWeb	00800 8007 0070	£180	50GB	Unlimited	6,000	✓			✓	✓	✓	✓	✓	
Streamline.net (www.streamline.net)	Trial (3 month)	0844 941 1000	N/A	10GB	Unlimited	1,000	✓	Option	✓	✓	✓	✓	✓	✓	
Streamline.net (www.streamline.net)	Starter	0844 941 1000	£23.88	500MB	Unlimited	20	✓	Option	✓	✓	✓	✓	✓	✓	
Streamline.net (www.streamline.net)	Personal	0844 941 1000	£41.88	3GB	Unlimited	500	✓	Option	✓	✓	✓	✓	✓	✓	
Streamline.net (www.streamline.net)	Plus	0844 941 1000	£71.88	10GB	Unlimited	1,000	✓	Option	✓	✓	✓	✓	✓	✓	
Streamline.net (www.streamline.net)	Multisite	0844 941 1000	£137.88	20GB	Unlimited	Unlimited	✓	Option	✓	✓	✓	✓	✓	✓	
Swish Hosting (www.swishhosting.co.uk)	Email	08445 67 69 71	£18	-	Unlimited	Unlimited				✓	✓	✓	✓	✓	✓
Swish Hosting (www.swishhosting.co.uk)	Windows Hosting	08445 67 69 71	£66	-	Unlimited	Unlimited	✓	✓		✓	✓	✓	✓	✓	✓
Swish Hosting (www.swishhosting.co.uk)	Linux Hosting	08445 67 69 71	£66	-	Unlimited	Unlimited	✓	✓		✓	✓	✓	✓	✓	✓
Swish Hosting (www.swishhosting.co.uk)	eCommerce	08445 67 69 71	£90	-	Unlimited	Unlimited	✓	✓		✓	✓	✓	✓	✓	✓
Swish Hosting (www.swishhosting.co.uk)	SiteBuilder	08445 67 69 71	£12	-	Unlimited	Unlimited	✓	✓		✓	✓	✓	✓	✓	✓
Switch Media (www.switchmedia.com)	Switch Standard	0151 236 9111	£159	1GB	50GB	500	✓					✓	✓	✓	
Switch Media (www.switchmedia.com)	Switch Business	0151 236 9111	£249	10GB	150GB	1500	✓					✓	✓	✓	
Switch Media (www.switchmedia.com)	Business Pro	0151 236 9111	£348.96	20GB	300GB	5000	✓					✓	✓	✓	
thename.co.uk (www.thename.co.uk)	Parking	0870 765 6364	£52.88	25MB	500MB	15	✓			✓	✓	✓	✓	✓	
thename.co.uk (www.thename.co.uk)	Forwarding	0870 765 6364	From £15	N/A	500MB	N/A				✓	✓	✓	✓	✓	
thename.co.uk (www.thename.co.uk)	Hosting	0870 765 6364	From £7.50	N/A	N/A	N/A				✓	✓	✓	✓	✓	
TwentyHost (www.twentyhost.co.uk)	Basic5S	0845 641 0776	£24	100MB	1,500MB	25	✓	✓	✓	✓	✓	✓	✓	✓	✓
TwentyHost (www.twentyhost.co.uk)	Standard5S	0845 641 0776	£45	200MB	3,000MB	50	✓	✓	✓	✓	✓	✓	✓	✓	✓
TwentyHost (www.twentyhost.co.uk)	Business5S	0845 641 0776	£70	500MB	7,500MB	100	✓	✓	✓	✓	✓	✓	✓	✓	✓
TwentyHost (www.twentyhost.co.uk)	Advanced5S	0845 641 0776	£110	1,000MB	15,000MB	200	✓	✓	✓	✓	✓	✓	✓	✓	✓
VARIHOST (www.varihost.net)	WordPress Basic	0208 144 7057	£47.88	2GB	10GB	10	✓			✓	✓	✓	✓	✓	✓
VARIHOST (www.varihost.net)	WordPress Plus	0208 144 7057	£71.88	4GB	100GB	100	✓			✓	✓	✓	✓	✓	✓
VARIHOST (www.varihost.net)	WordPress Extra	0208 144 7057	£119.88	unlimited	Unlimited	Unlimited	✓	✓		✓	✓	✓	✓	✓	✓
WebFusion (www.webfusion.co.uk)	Fusion Professional	0845 130 1602	£107.40	5GB	50GB	1,000	✓		✓	✓	✓	✓	✓	✓	
WebFusion (www.webfusion.co.uk)	Fusion Business	0845 130 1602	£179.40	10GB	150GB	1,500	✓		✓	✓	✓	✓	✓	✓	
WebFusion (www.webfusion.co.uk)	Fusion Developer	0845 130 1602	£227.40	20GB	300GB	5,000	✓		✓	✓	✓	✓	✓	✓	
WebFusion (www.webfusion.co.uk)	Fusion Reseller	0845 130 1602	£329.99	Unlimited	Unlimited	Unlimited	✓		✓	✓	✓	✓	✓	✓	
Web Wiz (www.webwiz.co.uk)	Windows Starter	0844 358 1450	£69.95	1GB	25GB	100	✓	✓	✓	✓	✓	✓	✓	✓	✓
Web Wiz (www.webwiz.co.uk)	Windows Professional	0844 358 1450	£149.95	4GB	100GB	500	✓	✓	✓	✓	✓	✓	✓	✓	✓
Web Wiz (www.webwiz.co.uk)	Windows Starter Reseller	0844 358 1450	£199.95	5GB	25GB	500	✓	✓	✓	✓	✓	✓	✓	✓	✓
Web Wiz (www.webwiz.co.uk)	Windows Business Reseller	0844 358 1450	£499.95	20GB	200GB	5,000	✓	✓	✓	✓	✓	✓	✓	✓	✓
Zebra Internet (www.zebrainternet.com)	Starter Pro	N/A	£10.99	5GB	40GB	50	✓			✓	✓	✓	✓	✓	✓
Zebra Internet (www.zebrainternet.com)	Business Pro	N/A	£46.99	10GB	80GB	500	✓	✓		✓	✓	✓	✓	✓	✓
Zebra Internet (www.zebrainternet.com)	Ultimate Pro	N/A	£79.99	Unlimited	Unlimited	Unlimited	✓	✓		✓	✓	✓	✓	✓	✓
Zen Internet www.zen.co.uk	Bronze (Linux)	0845 058 9000	£47.88	2GB	20GB	10	✓	✓	✓	✓	✓	✓	✓	✓	✗
	Silver (Linux)	0845 058 9000	£95.88	5GB	50GB	25	✓	✓	✓	✓	✓	✓	✓	✓	✗
	Gold (Linux)	0845 058 9000	£143.88	10GB	100GB	50	✓	✓	✓	✓	✓	✓	✓	✓	✗
	Platinum (Linux)	0845 058 9000	£239.88	50GB	250GB	100	✓	✓	✓	✓	✓	✓	✓	✓	✗
	Reseller (Linux)	0845 058 9000	£479.88	150GB	500GB	250	✓	✓	✓	✓	✓	✓	✓	✓	✗
	Designer (Windows)	0845 058 9000	£59.88	2GB	20GB	-		✓	✗	✗	✓	✓	✓	✓	✗
	Developer (Windows)	0845 058 9000	£179.88	10GB	100GB	-		✓	✗	✗	✓	✓	✓	✓	✗

Golden rules to top hosting
We identify and explain the key criteria for success...

1 ### The best resources for you
Selecting your ideal package is largely determined by the kinds of resources and quantity of features you require from your hosting solution. Key criteria like web space and monthly bandwidth are important for those services likely to be subjected to heavy amounts of traffic, which is why package solutions for enterprise applications are typically much more expensive. The general rule of thumb is not to buy more than you need or underestimate potential requirements...

2 ### Competitive and reliable
The hosting market is big business and hosting providers do try to drive prices down in a bid to entice your custom. Use our chart to compare costs, but be sure to visit the vendor websites to keep track of the latest deals, as they change. Remember that low price should not always be a deciding factor and that paying a premium for a more reliable, trusted and experienced vendor can offer you much better value for money in the long term.

3 ### Putting you in control
Modern hosting is all about giving customers the power to set up, monitor and maintain their web space with minimal fuss. Most commercial vendors offer access to award-winning and intuitive control panels that enable you to log in remotely and intuitively tweak your account, without the need to relay complicated instructions down the phone. Be sure to find out from your potential host as much as you can about the control panel and request a demo.

4 ### Fantastic customer support
If all else fails and you need some extra help to get your hosting back online, then a commitment to future customer support is key. Many vendors offer a service-level agreement which outlines what you can expect here, however most will be more explicit about whether phone support is included or email contact is preferred. Think about what you need for peace of mind and factor good, comprehensive technical support against the price.

2009
Web design relic

PNG header
The header image uses the PNG format to give it transparency, which in turn allows the image to integrate with any background colour or image near it.

Central column
To ensure that the page content is best presented for desktop resolutions, a centrally-placed column is used. Auto left and right margins always ensure that the main column is centred.

MOBILE
Web design relic

Load time!
Page size: **198KB**

01 seconds on a 2mbps connection

2011
Web design relic

Footer
The 2011 version of foursquare was still very similar to 2009. The most noticeable difference being the addition of a new, improved footer. A dark footer and light blue text gives it more impact and better legibility.

foursquare www.foursquare.com

The location-based service is a more modern-day 'style relic'. No tables, frames or inline styling here, but the original site still shows its age in more subtle ways

As a service, foursquare has only been around since 2009. However, it's not short of users, with around 15 million 'checking in' worldwide.

foursquare has a relatively short lifespan, which means that it doesn't have a dinosaur design lurking in its past. The desktop version has only gone through a couple of updates, and still retains elements found in the 2009 incarnation. The original design used a simple centrally placed column with a big header, Recent Activity and Get It Now options. An iterative update in 2011 saw more action in Get It Now and an upgraded footer. Finally, in 2012 a new update saw a switch to the contemporary and popular image slider option.

❝ foursquare has a relatively short lifespan, which means it doesn't have a dinosaur design lurking in its past ❞